ELECTRIC REFRIGERATION NEWS

The business newspaper of the electric refrigeration industry

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ENGINEERS DISCUSS THE PROPOSED NEW OHIO SAFETY CODE

Refrigeration Engineers Meet at Columbus—Requirements of Refrigerating Systems

The meeting called by T. P. Kearns, superintendent of the division of safety and hygiene, of Ohio, at Columbus, May 26-27, for the discussion of the proposed Ohio safety rules and regulations covering the installation of pressure piping, was attended by several of the leading refrigeration engineers. The meeting was adjourned so that certain data could be obtained and presented at the next meeting, subject to call by Mr. Kearns, chairman.

Those present and the companies represented were: L. S. Kielholtz and J. G. King, Frigidaire Corporation; C. C. Spreen, Kelvinator Corporation; Fremont Wilson, Servel Corporation; P. C. Morganthaler and F. Conway, General Electric Company; J. L. Patrick, York Machine Company; J. O. Shultz, Triumph Company; H. B. Drillot, Frick Machine Company.

Following is the proposed code of safety rules and regulations for mechanical refrigerating systems

(*Continued on page 14*)

FRIGIDAIRE REACHES FOUR-A-MINUTE OUTPUT

9,000 Workers Now on Payroll—Ranks Second in General Motors Group

According to an announcement made May 16, the production of Frigidaire in the Dayton plant has reached a new high mark of four-a-minute, or 2,000 per day. This new mass production record will be maintained, according to E. B. Biechler, president and general manager of the company. Since April 1 the payroll has been steadily increasing until the total number of employees has now reached 9,000. This represents an increase of more than 2,500 over a year ago.

Frigidaire now ranks second in unit sales in the entire General Motors group, according to a recent statement of Alfred P. Sloan, Jr., president of the corporation.

MOVEMENT STARTED TO SIMPLIFY BOX SIZES

Refrigeration Engineers to Cooperate with Department of Commerce

A movement to simplify and standardize refrgierator box manufacture was started a the spring meeting of the American Society of Refrigerating Engineers at White Sulphur Springs, W. Va., May 23-25. Willis Carrier, president of the society, appointed Van R. H. Greene to head a committee of six, not yet named, who will discuss the situation with members of the United States Department of Commerce, Bureau of Standardized Practices, headed by R. H. Lockwood.

The findings of this committee will be referred to the society who will decide what course to adopt. A. L. Fiske, business manager, made it plain that neither Department of Commerce nor the American Society of Refrigerating Engineers had any intention of forcing measures on ice box manufacturers.

"The ice-box industry has grown to such importance that the Department of Commerce has asked us to appoint a committee for the purpose of making a study of ice-box manufacture with an idea of approving standardized sizes and designs. The industry has developed more and more scientific models but has not made any special effort to standardize designs," said Mr. Fiske.

There were seventy-five delegates in attendance at the two-day meeting.

Appointed Boston Branch Manager of Ice-O-Lator

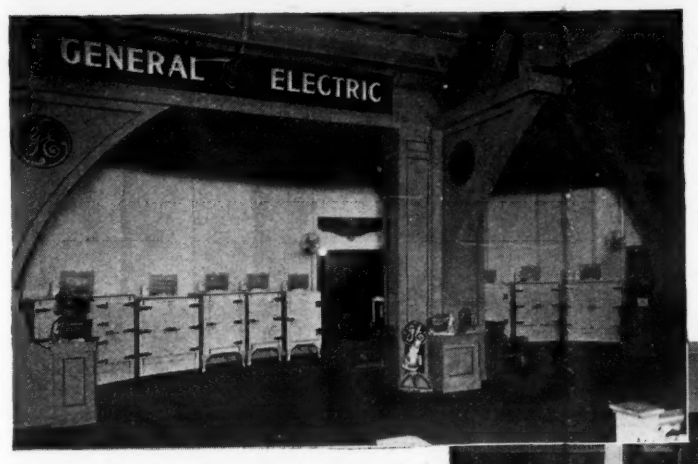
C. D. Williams, formerly associated with the Maytag Boston Co., distributors of the Maytag washing machines, has become the manager of the Boston branch of the National Refrigerating Co., manufacturers of the Ice-O-Lator electric and gas refrigerator sponsored by the Winchester Repeating Arms Co., of New Haven, Conn.

Tubing in 100ft. lengths

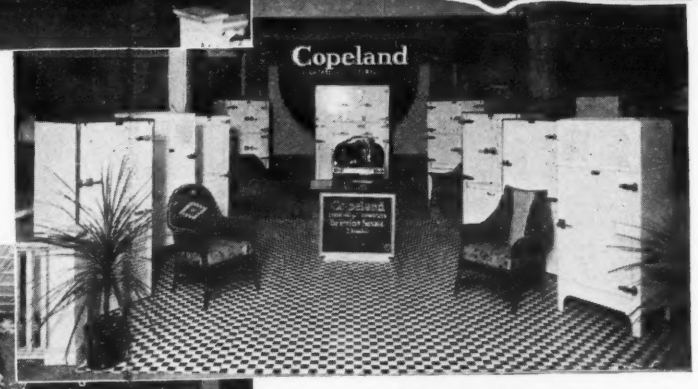
Smooth. No possibility of scale. Up to 100 foot lengths. Formed to your order.
1431 Central Ave., Detroit, Mich.

WOLVERINE
SEAMLESS COPPER AND BRASS TUBING

Attractive Exhibits of Electric Refrigerator Manufacturers at N. E. L. A. Convention



Electric Refrigeration Dept. General Electric Co., Cleveland, Ohio



Copeland Products, Inc., Detroit, Mich.

Iroquois Electric Refrigeration Co., Philadelphia, Pa.

Welsbach Company, Gloucester, N. J.

Frigidaire Corporation, Dayton, Ohio

Savage Arms Corp., Utica, N. Y.
(Left) Servel Corp., New York

The Lamson Co., Syracuse, N. Y.
(Left) A Parade Float of Kelvinator, Inc., Detroit, Mich.

REFRIGERATION THE FEATURE OF N. E. L. A. EXHIBIT

Elaborate Display Staged by Leading Electric Machine Manufacturers

PARADE HELD SATURDAY REGARDLESS OF RAIN

Central Station Executives Show Keen Interest in Electric Refrigeration Development

Atlantic City, June 7.—Electric refrigeration easily dominated the mammoth exhibit of electrical equipment and appliances which filled Young's Million Dollar Pier at the opening of the fiftieth annual convention of the National Electric Light Association here yesterday. The display, scheduled to open earlier than at previous conventions, was all in place on Saturday at one o'clock as announced. Attendance was fairly light until Monday when the crowds of central stations executives, engineers and commercial representatives began to arrive on special trains from all parts of the country.

The feature of the program from the viewpoint of electric refrigeration interests, was the combined committee report and address on "Electric Refrigeration" delivered by Ell. C. Bennett at the meeting of the Commercial National Section yesterday. The complete address will be found on pages 5 and 6 of this issue.

The strenuous competition among the leading manufacturers for the attention and favor of the public utility representatives was evidenced by the elaborateness of the decorative effects and special attractions in the booths. No expense was spared for professional talent in making the electric refrigeration exhibits complete to the last detail.

With the exception of General Electric, Iroquois and Crysteel the electric refrigeration displays were in one group, occupying the section of the pier usually reserved for the most prominent feature of the exhibition. Frigidaire, Savage Arms, Copeland, Servel, Seeger, Lamson, Leonard, Kelvinator, Nizer and Welsbach and ELECTRIC REFRIGERATION NEWS were represented in this section.

The important position which electric refrigeration now holds in the plans of the General Electric Co. was indicated by the sweeping arc of the new units almost completely hiding the other G. E. equipment on display in the large space always reserved by this company at N. E. L. A. conventions.

Frigidaire did itself proud with a most beautiful stage setting, with added attractions in the form of metropolitan musical talent to entertain guests. Servel presented an oriental scene with hot sands in the background and dusky Arabs to contrast with the obvious coldness of electric refrigeration. Kelvinator parried these persuasive appeals with a model kitchen in charge of household science experts who served cold desserts to visitors.

In the parade which was held Saturday afternoon, Kelvinator, Inc., presented a series of floats portraying "The History of Refrigeration." A gray-whiskered, white-robed Father Time led the group. Next came "The Cave" which our ancestors used to preserve food. This was followed by "The Well" which served the purpose in Colonial times. Then came the modern Kelvinator. Another float on which was mounted a Nizer ice cream cabinet was followed by a gigantic dish of ice cream. Two of the floats are shown in the illustration on this page.

Electric Refrigeration News Provides Special Service

Unusual preparations were made by ELECTRIC REFRIGERATION NEWS to give extra prompt news service at the convention. The publication headquarters were, in fact, moved bodily to Atlantic City. An 8-page section of this issue will be edited at the pier and printed in Philadelphia, so as to be distributed at Booth No. 167-A on Wednesday, June 8th. In adjoining columns and following pages will be found pictures of exhibits, N. E. L. A. officials and manufacturers' representatives, taken during the opening days of the convention. The previous issue of May 25, consisting of 20 pages, was largely devoted to the central stations phases of electric refrigeration. The coming number, June 8, will also emphasize the importance of the public utilities in electric refrigeration market development.

An Outstanding Sales Feature for REFRIGERATORS

WIRFS PATENTED
"AIRTITE"
CUSHION
GASKET

FIGURES SHOW THE STEADY GROWTH OF PUBLIC UTILITIES

Eight Billion Dollars Invested—Nearly Twenty Million Customers

The seventh edition of *Public Utility Points* issued in April by Bonbright & Co., New York, gives some interesting figures on the annual growth of the electric light and power industry, and emphasizes the rapidly increasing use of electrical appliances, and in particular the recent popularity of electric refrigeration. The following paragraphs and tabulations are quoted:

Capital Investment

Over $20,500,000,000 is invested in the public utility business in the United States as follows: $3,500,000,000 in telephone and telegraph companies, about $5,500,000,000 in the electric railways industry, and approximately $11,500,000,000 in the combined gas and electric power and light industry.

(NOTE:—There has always been considerable confusion occasioned by duplication in estimating the individual investment in the gas and electric industries, owing to the fact that many companies conduct more than one class of business. We believe, however, that the above combined figure contains a minimum of duplication.)

Increased Use of Electricity

Gross earnings of all the electric power and light companies in the country in 1922 aggregated approximately $86,000,000. The present annual gross earnings are about $1,700,000'000. Since the earliest days of the industry the gross revenue from the sale of energy has annually increased.

The power and light companies had 203,000 employees and 19,528,521 customers on January 1, 1927.

The electric power and light industry has practically doubled every five years.

Future Possibilities

It was estimated in 1926 that there were within reach of the lines of the electric power and light companies approximately 20,500,000 potential electric consumers, of whom only about 12,500,000 had been developed, leaving, approximately 8,000,000 prospective consumers, to serve whom would require little additional investment in distribution lines.

Less than 68% of the industrial power load is electrically generated.

Only about 58% of the population of the United States lives in electrically lighted dwellings.

Of our railroad mileage only about 1% is electrified.

92% of the 6,449,998 farms in the United States are without electricity. Only 4% of their total horsepower is now electrified.

Three important sources of revenue are constantly increasing in scope: the use of electric household appliances, electric heating and electric refrigeration.

Gross sales of domestic electric appliances have increased enormously, but have not kept pace with the increasing number of new customers who have become potential purchasers of appliances.

SERVEL OFFERS LINE OF SILVERWARE ACCESSORIES

A New Departure in the Merchandising of Electric Refrigeration

Twelve pieces of quadruple plate silver manufactured by the International Silver Company expressly for Servel and offered to dealers as accessories, represented the latest idea in the merchandising of electric refrigeration. R. W. Foley, sales promotion manager, announces the new line and explains its possibilities in the May issue of *Servel Refrigograms*. The set consists of: One deep dish—This deep dish is used for freezing puddings, mousses and desserts. One large platter—This platter accompanies the deep dish when it is placed on the table, serving to protect linen—and, of course, has various other uses. Eight goblets—These goblets are so constructed in size that the entire eight can be placed in the deep dish, and the whole assortment placed in one of the chilling tanks. One ice bowl—The ice bowl is placed on the table and filled with ice cubes, either plain or colored. One set of tongs—These tongs are used in serving the ice cubes direct on the table.

The silver accessory set may be used in various ways by Servel dealers: The complete set may be sold as an accessory accompanying a Servel refrigerator. On this basis the set is sold at a flat price as an addition to the price of the Servel itself. In the same manner that attachments are sold with vacuum cleaners.

During an intensive campaign, or as a June bride special to stimulate sales the set may be given away with the purchase of a Servel electric refrigerator.

It may be used as awards to present owners of Servels who furnish the greatest number of prospects who are subsequently sold Servel machines.

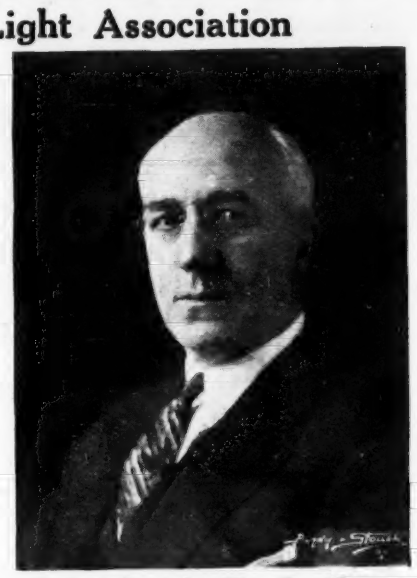
It may be given away by the dealer in lieu of a cash discount. This would be merely following out the plan as used by automobile dealers in supplying extra equipment such as spare tires, bumpers, etc., instead of an extra discount.

It may be used as prizes among the sales force to stimulate sales.

Officials of the National Electric Light Association

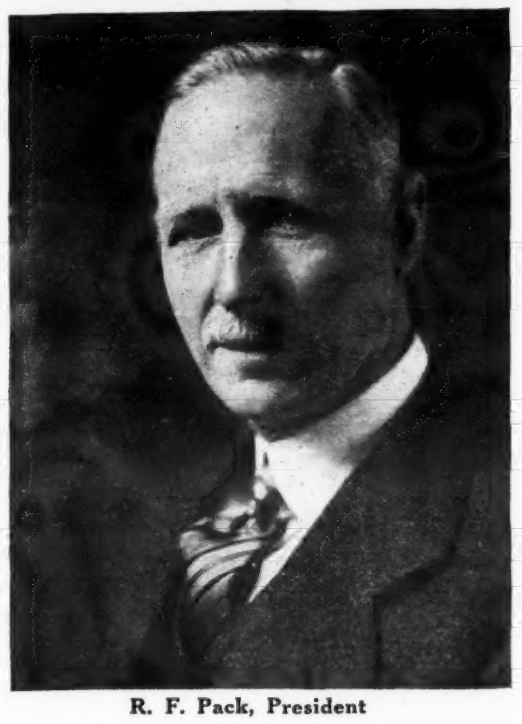
Paul S. Clapp, Managing Director

Howard T. Sands, 1st V. P.



P. S. Arkwright, Vice President

George Oxley, Publicity Director



R. F. Pack, President

W. A. Jones, Chairman, Public Relations Section

GENERAL ELECTRIC STARTS ADVERTISING CAMPAIGN

Large National Magazine Schedule Under Way This Month—Production in Two Factories

A national advertising campaign, in which leading magazines and newspapers of the country will be used, starting in June, has been announced by L.. R. Edwards, advertising manager of the refrigeration department of the General Electric Company at Cleveland. Magazines with a combined circulation of more than 15,000,000 will be used each month for the remainder of the year. This will be supplemented by an extensive newspaper campaign, in which the dealers and distributors will co-operate.

Production of refrigerators has been under way since February in two of the company's factories—at Fort Wayne and Schenectady—and there has been a steady increase in the output each month. Plans are under way for increasing this production still further from now until September, by which time more than 100 distributors and several thousand dealers will be fully organized in all important trading centers of the country, according to P. B. Zimmerman, sales manager.

The advertising will stress the simplicity of the G. E. refrigerators. "Those in the trade who have seen this new refrigerator are high in praise for its many features," Mr. Edwards said. "All the mechanism is enclosed in a hermetically sealed casing before it leaves the factory. This casing contains a supply of oil sufficient to keep all moving parts thoroughly lubricated for many years."

The Model R-5-2 refrigerator has a food shelf area of eight square feet, and a food storage capacity of 5½ cubic feet. It has one small tray for making ice cubes and one large one for making cubes or frozen desserts. It can make 56 cubes, approximately seven pounds, of ice.

Its exterior dimensions are an overall height of 66 inches, width over hardware of 28¼ inches, and depth over hardware of 24¼ inches. The legs may be removed, and the height reduced 11⅜ inches. The cabinet is finished in white lacquer exterior and white porcelain interior, without trim.

GENERAL ELECTRIC APPOINT CENTRAL ILLINOIS DISTRIBUTORS

The Klaus Radio and Electric Co., Eureka, Ill., has been appointed distributors for General Electric Icers for 33 counties in central Illinois. The Klaus Company has been distributing radios in this territory for the past five years. The electric refrigerators will be handled from the Eureka and Peoria stores of the latter company.

Fundamentals of Refrigeration

Ten copies of a 20-page booklet explaining the fundamentals of electric refrigeration will be sent by the NEWS on receipt of one dollar. Prices on large quantities will be furnished on request.

More Power to You!

REFRIGERATION! A new load. A good load. A load that grows with leaps and bounds as each annual convention of the N.E.L.A. registers the development of new and better refrigerating equipment.

This year Servel exhibits at the convention two entirely new series of appliances which by their beauty, efficiency and dependability will invade and capture new fields for power supply.

For use in the home Servel now offers the choice of three graceful all-steel models equipped with the perfected Duplex machine. A twenty-year machine in a twenty-year cabinet!

Five new commercial machines cover the range from 300 to 1000 lbs. refrigerating capacity. Compact, efficient, well built—the sturdy type of equipment that gives a maximum of service with a minimum of servicing.

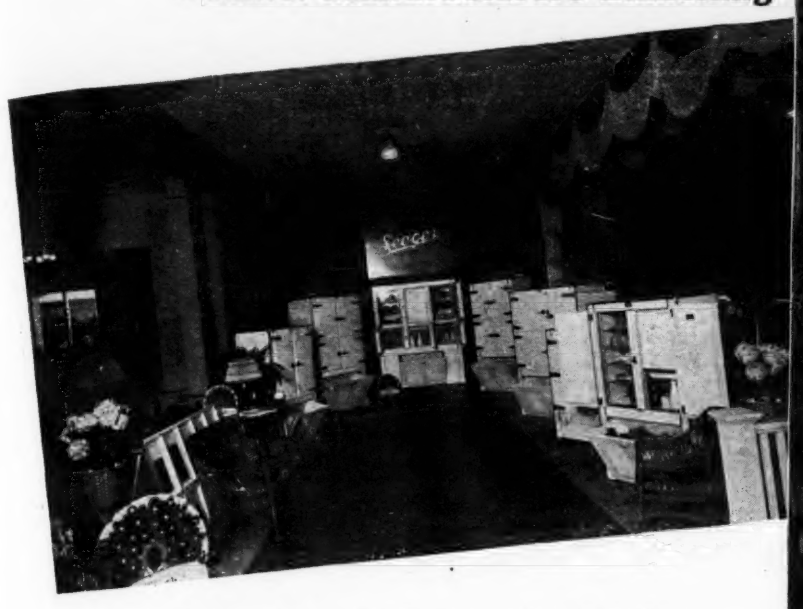
This saving on servicing, with its consequent building up of good will, is the reason why Servel is sold by more electric light and power companies than any other refrigerator.

Members of the N. E. L. A., meet the new Servel —and more power to you!

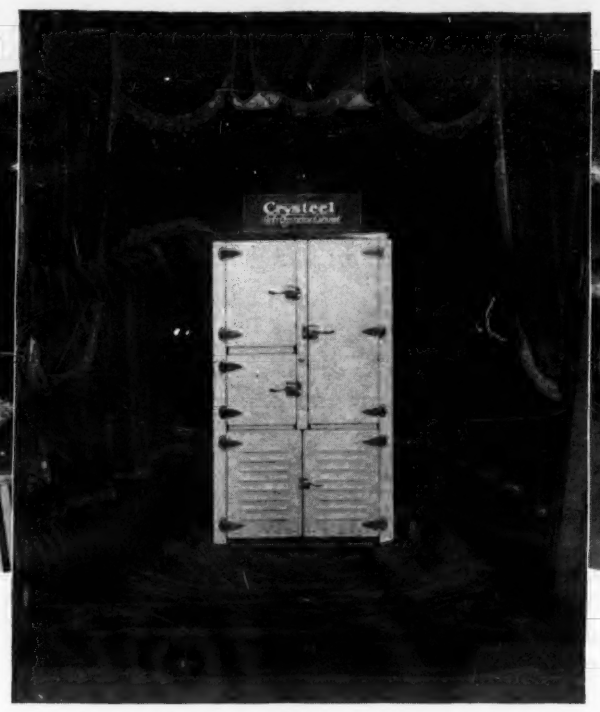
SERVEL
Electric Refrigeration

BOOTHS 213—215—217, ATLANTIC CITY, JUNE 4th to 10th

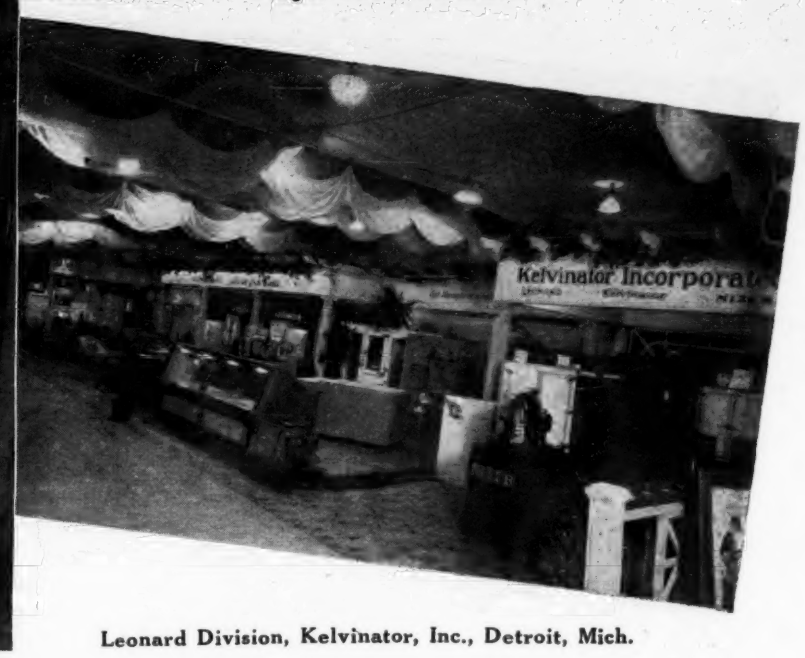
Cabinet Manufacturers Exhibiting at Atlantic City Convention



Seeger Refrigerator Company, St. Paul, Minn.



Benjamin Electric Mfg. Co., Chicago, Ill.



Leonard Division, Kelvinator, Inc., Detroit, Mich.

Manufacturers Respond to Central Station Comments

General Acceptance of Requirements which Public Utility Men Outline for Successful Relations with Consumers

Atlantic City, June 6—Representatives of the electric refrigerator manufacturers now attending the National Electric Light Association Convention are impressed with the highly encouraging attitude of the public utilities toward the future of electric refrigeration as expressed in the comments of numerous central executives from all parts of the country, which were published in the May 25 issue of ELECTRIC REFRIGERATION NEWS. Below and in the following pages are responses from manufacturing executives written at Atlantic City especially for publication in this issue which will also be distributed at the N. E. L. A. Convention on Wednesday. Other comments will appear in the June 22 issue, together with further reports regarding electric refrigeration activities at the convention.

QUALITIES DEMANDED BY CENTRAL STATIONS ARE ESSENTIAL TO SUCCESS

Proper Service Will Prevent, as Well as Cure, Troubles

By Geo. W. Mason, Vice-President and General Manager Copeland Products, Incorporated, Detroit

I have been much interested in reading in your issue of May 25 several articles by central station officials, relative to electric refrigeration.

Needless to say, we, in the manufacturing end, share the optimism, so generally expressed, over the future growth and stability of the business; an optimism which has as its source a rapidly growing public appreciation and acceptance of electric refrigeration.

It seems almost self-evident that the qualities which central station men have named as necessary must characterize a product, if those who make it and those who sell it are to prosper or even continue in business. In the main, those things which create satisfaction on the owner's part will fit it to central station requirements. These may be listed roughly, as dependability, efficiency, quiet and economy; and back of these qualities that all-important factor—*service.*

Reference has been made to the fact that many former automobile men have engaged in the refrigeration business. Copeland has a number. They come from all branches—engineering, production, sales and advertising. It might be pointed out that experience in that field can be highly valuable in a younger industry with many problems yet to be met and overcome.

Design and production methods are vital factors in turning out a product that will possess maximum desirability at minimum cost.

At Copeland we are working to limits several times closer than are found in the finest automobile practice. Straight-line manufacture and group bonus system of wage payment—which have done so much to improve manufacturing efficiency in the field of motordom, are proving of like benefit to us.

It took automobile manufacturers many years to realize the vital importance of *service* of the proper sort. The refrigeration business is keenly aware of the necessity and importance of this fundamental factor; and by that I mean service that *prevents* as well as cures. We have a service school under skilled direction that trains hundreds of service men for distributors and dealers each year. In this connection it might be added that a large number of service men from central stations have been trained on Copeland, making their services available to owners, in addition to those of service men of our own distributors' organizations.

Through various sources, educational work of a high order is being carried on, with the result that the public is coming more and more to a realization of what proper refrigeration means from the standpoint of health, convenience and—in the long run—economy. No other household appliance, I believe, renders such constant and beneficial service per dollar invested. No other fits itself so well to the situation for the central station.

Elecric refrigeration has come to stay. True enough, the industry is still in swaddling clothes—but it is a lusty infant, destined to giant growth.

"BETTER ACQUAINTED" SPIRIT WILL STABILIZE REFRIGERATION INDUSTRY

Pioneer in Electrical Development Proposes Co-operative Measures

By Harry W. Alexander, General Manager, Refrigeration Division The Lamson Company.

Rather than writing an article, I've a number of thoughts to propose; just a little thinking out loud, so to speak.

Admittedly, electric refrigeration is now a sound idea, practicable, effective and is a real economic need in the home and store. It arouses great enthusiasm, and is the greatest single domestic load builder discovered. Then, logically, every good machine on the line is a boost to electrical development.

Why shouldn't the central station exhibit in its merchandise rooms all good makes sold locally and possibly go a step farther and sell more than one make, as many do ranges and washing machines. There is more than one type of refrigerating machine on the market now, and if the product is made by a reputable company and tests well, the central station can go a long way to stabilize affairs.

Every new industry goes through growing pains. The central station industry itself did. It outgrew municipal ownership agitation, poor financing, over-capitalization, poor engineering, until it got where it is today. The motion picture industry and radio had similar chaos. But here is a business where the central station industry—represented by each company in its own home town, has a chance to be paternalistic and act as a clearing house. It can make standards before a machine is admitted, but if the central station sales manager will take the leadership, great good will result.

Later possibly a single servicing station can be developed where one company will service any and all recognized machines instead of each distributor bearing this burden.

The central station can work out a plan for centralized educational work of a constructive nature to eliminate much of the back-biting now existent, such as discussion on "safe" refrigerants, etc., bound to react against the industry as a whole.

I believe eventually something like the "Red Seal" plan will materialize. I saw this start and grow and become successful. Much can be done by eliminating sharp practices of solicitation now rampant.

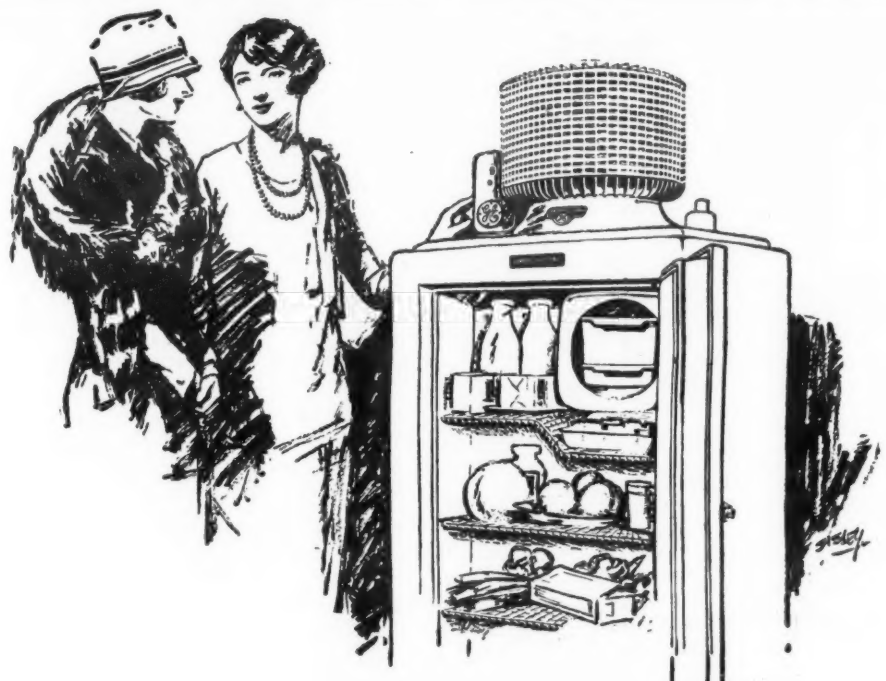
Instead of the central station just standing aloof from the distributors and dealers of makes other than the machine it sells, why not "get acquainted." Be a bit "Rotary." Many of these men are newcomers in the industry. They know little of its traditions and its good-fellowship. Some of these dealers have invested every dollar they have in the world in this great El Dorado, and they need a helping hand. And surely, with $36 income per machine per year additional revenue with little expense, the central station can afford to lend a welcoming hand to the newcomers. They may escape orphans too.

Department Stores Are Holding Shows

And what is a better way than to run joint electric refrigeration shows, or, better still, to exhibit continually more than one make of machine, or perhaps sell more than one make. All over the country department stores are starting refrigeration shows and they get one merchandising profit—John Wanamaker New York, for instance; so why should the central station sit back and let the leadership be taken away in a business that is rightfully its own.

I may be out of place speaking out loud now, risking being premature, but I really believe I have a right to as a pioneer in central station selling and in the industry 18 years, since the electric iron was a novelty.

The idea is not far fetched. It rests largely with each central station sales manager to stabilize his own home city—he can advance the industry two years by taking the leadership.



Problems of installation and service *now* cut to a minimum

Here at last is a domestic refrigerator that can be installed in a few minutes, without any plumbing, wiring or assembling. The all-in-one unit merely has to be lowered into the top of the box. Then it is plugged into any convenience outlet—and it starts.

This simplicity of installation is just one of the advantages that fifteen years of research in the General Electric laboratories have made possible.

The General Electric Refrigerator is unusually quiet. It never needs oiling or attention. It uses a minimum of current. It has no belts, fans, pipes or stuffing box to get out of order. It has all the selling points that are vital.

Dealers who are interested should address:

Electric Refrigeration Department
of General Electric Company
Hanna Building, Cleveland, Ohio

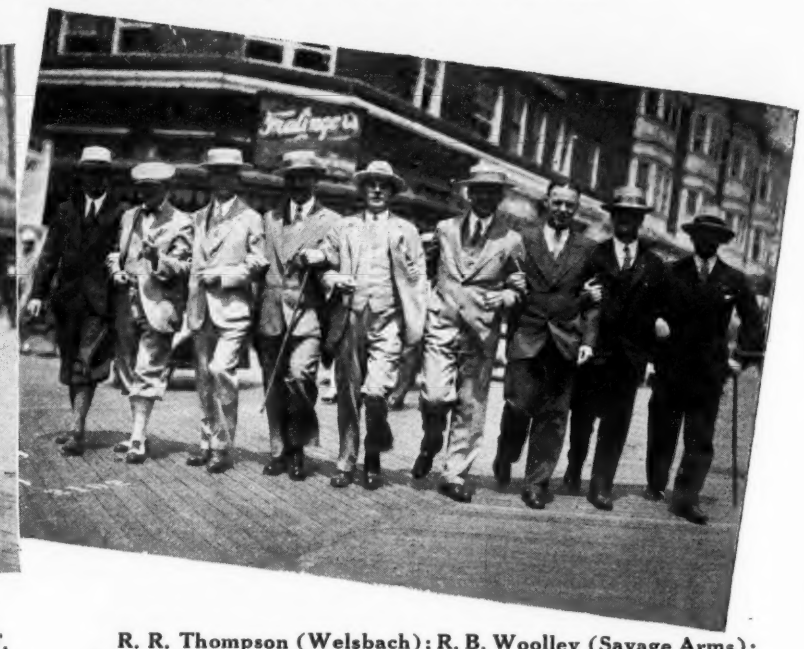
GENERAL ELECTRIC
Refrigerator

THE CREATION OF GENERAL ELECTRIC—LEADING ELECTRICAL RESEARCH ORGANIZATION OF THE WORLD

Conventioneers and Exhibiteers, Their Displays Completed and Awaiting the Incoming Crowd, Step Out on the Boardwalk

J. A. Corcoran (Kelvinator); A. H. Jaeger (Leonard); Gordon W. Kingsbury (Kelvinator); A. M. Taylor (Copeland); F. M. Hunt (Kelvinator); Ray M. Martin (Kelvinator).

C. M. Selph (Electric Refrigeration News); H. F. MacGrath (Seeger); John J. Leonard (Seeger); Walter J. Daily (General Electric); H. A. DeLashmutt (Electric Refrigeration News).



R. R. Thompson (Welsbach); R. B. Woolley (Savage Arms); F. M. Cockrell (Electric Refrigeration News); Harry W. Alexander (Lamson); Chester A. Smith (Seeger); Howard A. Lukens, J. L. Shanahan, R. E. Ewing and H. J. Burman (Welsbach).

UTILITIES JUSTIFIED IN ESTABLISHING SPECIAL REFRIGERATION DEPT.

Manufacturers Will Be Glad to Train Specialists for Sales and Service

By H. P. Childs, Vice-President in Charge of Sales and Advertising, Servel Corporation

Since its inception, our company has been dedicated to the central station industry. It was readily recognized five years ago that the public utility was the proper medium through which to distribute an article so indispensable in the modern American home, because of their enviable standing in the community. This standing has been acquired over a period of years through satisfactory methods of promoting customer relationship.

Realizing the unquestioned earnings derived from electric refrigeration, the public utilities are justified in establishing a refrigeration department, manned by specialists in their line and operating under the direction of the merchandise managers. These specialists, both of sales and service, will gladly be trained in the shops and schools of any manufacturer of electric refrigerators.

Some of the utilities are not progressively merchandising electric refrigeration, partly because preceding appliances have not demanded the intensive sales effort required of electric refrigeration, and are doing very little to develop a business that means ultimately more to them than to the manufacturer. A large number of utilities, however, have found it profitable to aggressively promote the sale and the service of electric refrigeration.

We believe that the ultimate success of the refrigeration industry is dependent on the closest co-operation between the public utility and the manufacturer, and the manufacturers should welcome any advice or assistance from the public utility executives to accomplish this end.

CENTRAL STATIONS TO BE THANKED FOR FOSTERING SOUND DEVELOPMENT

Manufacturers Now Realize Justification for Central Station Conservatism

By C. B. Ryan, Jr., Welsbach Company

In its editorial comment, several weeks ago, upon the mystification of automotively-trained executives coming for the first time—as refrigeration merchandisers—in contact with central station methods and policies, ELECTRIC REFRIGERATION NEWS surely started something.

Nothing about the present N. E. L. A. Convention has impressed me more than the "central station viewpoint," so interestingly presented in the May 25 edition of ELECTRIC REFRIGERATION NEWS, and so unmistakably reflected in the attitude of those delegates and visitors to Atlantic City who have been trained in the public service school of opinion.

Having been born in a public service environment, having for some years enjoyed "central station contacts," having been raised in the automotive industry, and—finally—representing today a manufacturer with more than forty years of close public utility relationships, perhaps I may be pardoned for a somewhat positive statement of opinion.

Here it is: Refrigeration—with the introduction of small domestic units—offered untold merchandising opportunities. As the industry earned some meaure of "consumer acceptance," those of us trained in developing national markets jumped in, expecting a "joy ride." We recognized the value of refrigeration to the electric light company and took for granted that those with most to gain would be unstinted in blowing our horn. But—to our astonishment—we found some central stations actually of the opinion that they could well afford to defer action; others doubting that we had emerged from the stage of development and experimentation; still others trusting implicitly in our confident assertions of achievement, but wishing to wait until the public, also, appreciated the strides we had taken; and a few—fortunately, not many—willing to "play the game." The merchandisers among us have been at a loss to understand why—and how—the central station has refrained from "putting us on the line." The economists among us, however, are finally realizing the gratitude we owe the entire electrical industry for having provided us with a balance wheel, and having—by an attitude of watchful waiting—supplied, and even forced upon us, a wisdom that usually comes only with years.

Some of us, remembering our mistakes, are unsurprised by the present failure of *all* central stations to agree upon some plan of putting a refrigerator upon every domestic meter.

We automotive men should have learned enough from our observation of public service relationships to realize that we should no more expect central stations to be exactly like motor car distributors or dealers than we should expect to find spark plugs on every refrigeration compressor.

It might be clever to say that the attitude of a refrigeration executive toward public utility relationship depends upon which central station is being considered. It is encouraging to realize, however, that we may expect the relationship to depend to a very great extent upon the manner in which the refrigerator under consideration ultimately serves the central station's customer.

That's the important thing. We may well be thankful that the central station has not adopted our infant industry as an immediately profitable plaything, but is fostering our sound development along more conservative, but safer and healthier, lines than some of us would like to see.

UTILITIES CAN SELL STANDARDIZED UNITS FOR COMMERCIAL USE

Cabinet People Co-operating with Machine Manufacturers to Develop Commercial Field

By R. E. Ottenheimer, President Ottenheimer Bros., Baltimore, Md.

The commercial refrigeration field—butcher, grocer, delicatessen, florist, hospital hotel, club, etc.—offers a large outlet for power. The problem of merchandising refrigeration equipment to supply this demand grows in proportion.

Recent developments prove the success of the unit commercial idea. This idea parallels the experience of the household branch of the industry.

In the beginning, the household units were designed to be applied mostly to the existing refrigerator installed in the home. We now find that the unit sale, *i. e.* (box and machine) predominates. The reason for this is in the public demand for co-ordinated equipment. The same applies to the commercial field.

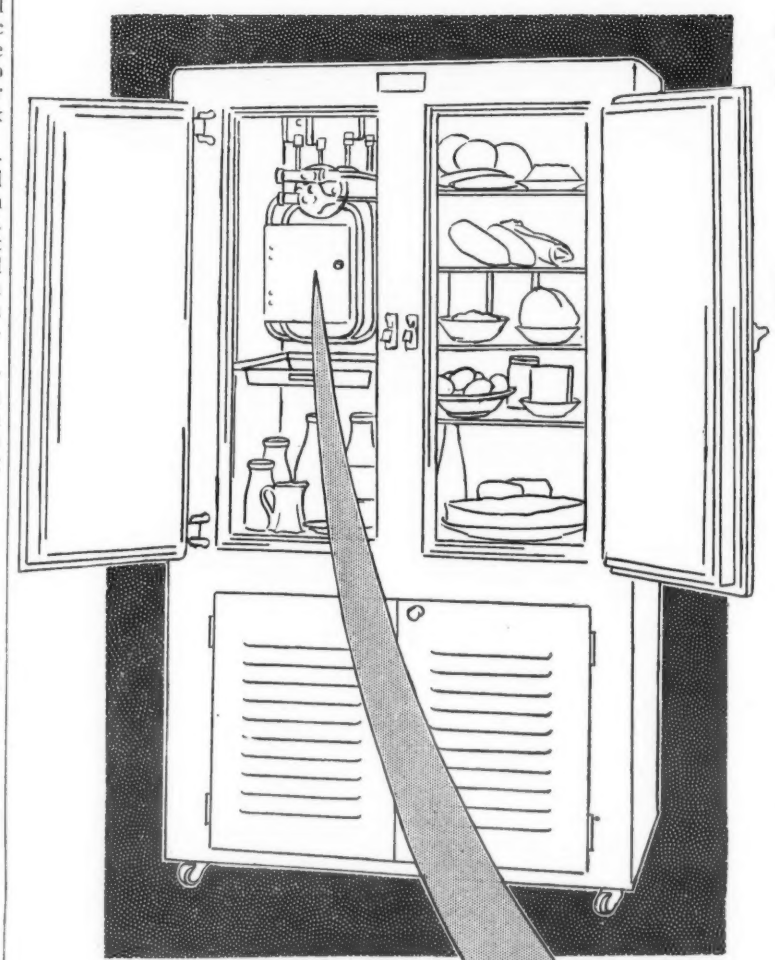
The co-operation of the refrigerator manufacturers makes the development of this unit commercial idea possible and practical. Results have proven its success to be an established fact. The refrigeration unit manufacturers have selected from the line of the refrigerator manufacturer making a complete line of refrigerators and cases, those items which meet with the greatest popular demand. This argues that these cabinets cover the greatest proportion of the needs of the users. Then the cabinet and unit are co-ordinated by the design of low side equipment to give the greatest efficiency of operation to the user. After thorough testing under actual service conditions the unit manufacturer is in a position to offer to their distributors a practical and complete commercial equipment that can be sold under one contract with one guarantee and will cover the greatest proportion of the sales possibilities in the commercial field.

The advantages of this idea are obvious. The first is that there is no delay in waiting until the prospect has selected the cabinet and then making an estimate to equip same; the entire control of the sale is in the hands of the salesman. The second is that the cost of the sale is no greater, while the amount is in most instances doubled, with a corresponding decrease in sales and service expense. The third, and possibly greatest, is the assurance of a practical and trouble-proof installation.

A survey of the market brought out the fact that the majority of purchasers buying commercial refrigeration recently have bought new refrigerators or display cases to go along with same. It is easier to train a salesman to sell a household unit than it is to train one to efficiently survey the existing ice boxes and estimate on equipment to refrigerate them. It is also much easier to train a salesman to sell a commercial refrigerator or display case completely equipped with a tried and proven mechanical refrigeration system.

The logical conclusion seems to be that it is easier and more profitable to sell the complete commercial equipment, and recent experience has shown that daily the central station is coming to be a logical outlet.

YEARS IN COMING—
Here At Last



—an epoch-making development that gives the world its first

LIFETIME ELECTRIC REFRIGERATION

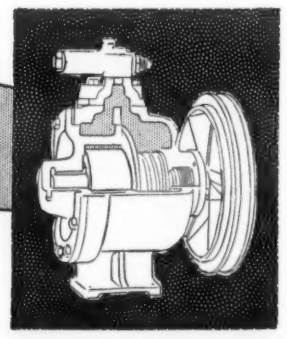
We are convinced that we have found in NORGE the one big feature the world seeks . . . absolute PERMANENCE. We believe that NORGE and NORGE *alone*, is the one system that becomes a *part of the home*—as simple, as sturdy and as dependable as electric lights or running water; and just as lasting.

Norge has *only 3 moving parts*. Compared with other systems it is as simple as a telephone compared to a Radio. These three moving parts operate *submerged in oil* under pressure. There seems to be an automatic compensation for wear. There is nothing to get out of order. It is so simple it *must* function perfectly . . . always.

We invite you to be critical when you investigate Norge. Be as exacting as you please, but by all means *See Norge* before you select any electric refrigeration franchise — *if* you want *Lifetime* electric refrigeration.

NORGE CORPORATION
DETROIT

Only 3 moving parts
ALL SUBMERGED IN OIL



NORGE

Electric Refrigeration

101)

Urges All Interests to Cooperate Nationally and Locally to Solve Market Development Problems

Bennett, in N. E. L. A. Address, Makes Plea for Group Effort During Coming Year—Says Electric Refrigeration Offers Only Practical Way for Central Stations to Acquire Desired Additional Load

Representing the Electric Refrigeration Committee of the National Electric Light Association, and speaking on behalf of the committee in lieu of the usual report, Ell C. Bennett, editor of *Electric Light and Power,* addressed the Commercial Section of the Association assembled in convention at Atlantic City, N. J., Tuesday afternoon as follows:

Selling Electric Refrigeration

"Mr. Chairman, Ladies and Gentlemen:

"As I am merely an observer, neither a manufacturer nor seller of electric refrigeration, but called upon to take a message to an audience including those classes, it seemed to me an impertinence to offer my own, layman's, viewpoint.

"And so, I asked this question of each of scores of electric refrigeration manufacturers and merchants: If *you* were talking to many men who could greatly forward or retard refrigeration development, what message would you give that would, in your opinion, be most constructive?

"I asked, and I received—an earful!

Conflicting Views of Manufacturing and Public Utility Interests

"I found there were many people who had a lot to say; but, unfortunately for the establishment of conclusive opinion and experience, but little of any one statement was in accord with any other. That is to say, but little of the statements agreed with the statements of electric utility men, as to the cause of evils that beset this business—but, there was considerable agreement among manufacturers as to the state of general debility in electric power company sales departments, and, I report with diplomacy and restraint the uitlity folk did not exactly throw their hats in the air about the sagacity and acumen of manufacturers.

"In short, upon viewing the whole, as painted by the opinions of these manufacturing gentlemen, one might say without unseemly inquisitiveness, 'What is wrong with this picture?'

"Digging deeper, one finds that there is quite a bit wrong, and, as might be logically expected, the retardative practices are not by any means monopolized by either the maker of or the dealer in electric refrigeration.

"However, not to be depressingly pessimistic, because the facts do not warrant that, this business is merely finding much the same difficulty, and no more, that other new businesses have found during early stages, when growing pains, discouragement and temporary defeats are necessary to build into development, care and character.

Conferences Needed to Discuss Mutual Interests

"There is no one, all-potent panacea for business troubles, but to my thinking the factor that most nearly approaches miracle-healing of commercial ills is the will and the action of bringing together, in conference and co-operation, interests which may be at cross-purposes as to detail, but basically have the same goal.

"It is not too much for one to visualize, after reading the criticism and comments from manufacturers and dealers in electric refrigeration that, if those men were gathered together for a period as long and as frequent as necessary, and were to be as openly frank with each other in conference as they are privately, their obvious mutuality of interests would bring about a give-and-take, a correction here and an improvement there, that would mean a clean wiping away of obstacles that are insignificant in comparison with the great opportunity they obstruct, but, nevertheless, remain sand in the gear-box until washed away.

"It is that message, more than any other, that I hope to leave with you today, in so insistent a way that before this convention is over, ways and means will be found by some of you to bring about as quickly as possible such a conference, and to repeat it frequently enough to keep the machinery of electric refrigeration development running smoothly.

ELL C. BENNETT

Advises Coordinated, Mutual, Reciprocal Effort

"It is obvious that in the few moments I am permitted here, I cannot do more than emphasize *some one* broad policy leading to advancement of your interests—to attempt to speak about terms and tests and servicing and salesmen would be folly. Weeks of study of what was probably a greater quantity and greater variety of opinion, from men in a better position to know, than ever gathered together on one desk, impressed me that advice, advocating future, co-ordinated, mutual, reciprocal effort is the most constructive message I can deliver.

"Referring again to all the opinions, experience and data I accumulated, it is the most enlightening material yet made available, and a way will be found to put in print all of it that is constructive.

"Bearing upon my plea for group-effort, it occurs to me that in the sure knowledge of many of us of the tremendous importance, to electric service companies, of refrigeration development, perhaps we are taking too much for granted in an assumption that all of the six to seven thousand light and power companies are as thoroughly 'sold' on this business as we are. If we are making that error it is a common one. When one has become saturated with a subject, and passed on far beyond its elementary consideration into the finer points of its intensive development, it is a usual error to forget that all have not enjoyed the same opportunities for study, and many are still in the early stages of doubt.

"Before I take care of that contingency, with what I believe is incontrovertible evidence, I wish to make emphatically clear the fact that nothing I believe nor say advocates that any electric light or power company should lighten its efforts to develop the sale and use of any of the recognized electric appliances. On the contrary, my statements and writings for five years put me definitely on record as insisting that electric service companies engage in the most intensive way in the promotion of the sale and use of every class of worthy electrical equipment that can be connected to an electrical outlet in the home, office, store and factory. But, I am here today to talk about electric refrigeration, and if, of necessity, in pointing to its importance, I must compare it favorably with other methods of load building, it does not mean that those other methods should be abandoned, simply because electric refrigeration reaches the goal by a shorter route.

Double Present Residence Load—the Goal of Central Stations

"It is agreed that the average residence consumption is about one kilowatt-hour per day. The ultimatum of those men in highest authority in electric service companies is that nothing short of at least twice that consumption will be accepted as a minimum sales result, and that that multiplication by two must be accomplished in a span of months, not years.

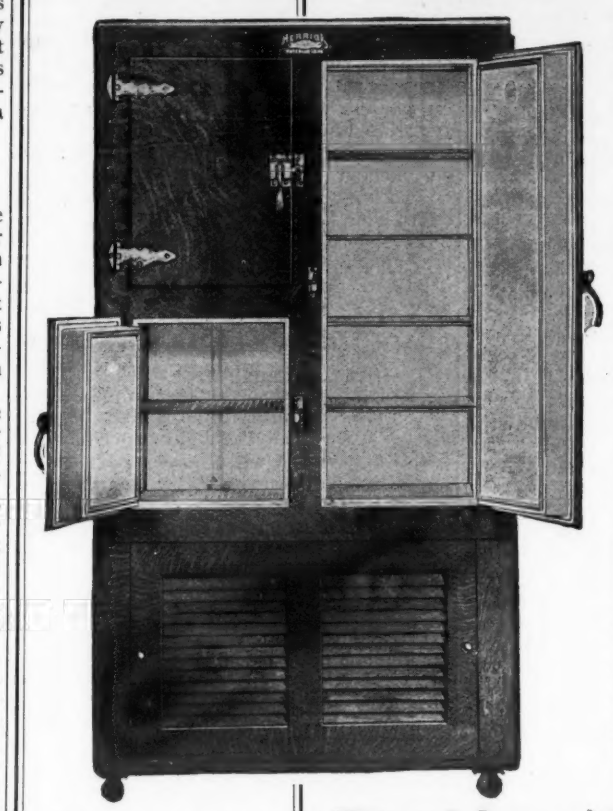
"Those commercial executives who are depending solely upon the kilowatt-hour consumption of most appliances and of lighting to bring about this revolutionary increase, are probably riding toward a serious disappointment. There are available authenticated data to substantiate that statement. One of the principal reasons it is true is that when electric service companies rely upon appliances—excepting the refrigerator, range, iron, ironer and water heater—to build more load from the home, they are relying upon human factors which they have to date not found a way to control. I mean, they are depending upon service-using devices which are not, of necessity and assuredly, *used* after they are placed in the home, but whose use depends entirely upon the inclination and habits of the people in the home.

Human Element Affects Revenue from Most Appliances

"Surveys have demonstrated that in homes having the same wattage installed in appliances and lighting, the kilowatt-

(*Continued on Page 6, Column 1*)

The Latest addition to the "easiest selling line in America"



Heavily insulated doors and walls—choice of three superior linings — extra heavy brass hardware nickel-plated. Large storage space.

The new HERRICK Refrigerators for electric refrigeration are ready! Dealers who have been selling this dependable line for ten, twenty, and even thirty years know what this means.

Now you can give your customers all the advantages of your favorite electric unit plus the absolute dependability, convenience and economy of HERRICK cabinets.

The "Aristocrat" of refrigerators for 37 years, the new HERRICK cabinets for electric refrigeration are unsurpassed for beauty and unequalled for economy. HERRICK cabinets sell quickly because they are reasonably priced and because buyers are naturally attracted by the beautiful design and furniture finish.

The HERRICK for electric refrigeration comes with or without the base for self contained unit. Beautiful quartered oak or white enamel finish. All the superior HERRICK features. Order a sample for your floor. Or send for illustrated folder showing popular models. HERRICK REFRIGERATOR COMPANY, 1016 RIVER ST., WATERLOO, IOWA.

Food keeps BEST *in the* HERRICK

THE ARISTOCRAT OF REFRIGERATORS

20 pounds pressure 280 R.P.M.

Of Vital Importance in Merchandising Electric Refrigeration

AN ACHIEVEMENT toward which refrigeration engineers have looked for years has become an accomplished fact in the Welsbach System of Refrigeration—Low-Pressure operation at Slow Speed.

As the first successful approach to the solution of the problems of reliability and *service*, Low Pressure at Slow Speed is of vital importance to everyone. For it is the progress made on these points which determines the future stability and financial success of distributor and manufacturer alike.

With the Welsbach System, operating standards of a new order are introduced. Forty years of pre-eminence in the manufacture of household conveniences are standing sponsor for these standards. They affect not only the action of the mechanism, but the refrigerant itself, the lubrication, the freezing unit, the compressing unit and the cabinets as well. On all of these points, improvements of an important nature have been made.

Model No. 200, One-piece Seamless Steel. For average individual household requirements

The line is complete, either with cabinets or for remote installations for household and commercial uses.

Central Stations ★ Distributors ★★ Dealers ★★

The opportunity is presented for a limited number of Distributors, Central Stations and Dealers to share in the satisfaction and profits that a widespread demand for Welsbach Electric Refrigeration is bringing.

A pre-eminently better product—and a company of unquestioned financial responsibility and manufacturing facilities. A selling franchise that carries with it liberal assistance and an equitable distribution of profits.

This development warrants your most exacting investigation.

WELSBACH COMPANY, 307 Ellis Street, Gloucester City, N. J.—Adjacent to Philadelphia, Pa.

LOW PRESSURE Electric Refrigeration by Welsbach

★Address Public Utilities Division

★★Address Distributor and Dealer Division

Automatic Switches

for

Household and commercial refrigeration units, either thermostatic or pressure operated. Neat, compact, reliable, inexpensive.

Made with mechanical contacts employing a new patented make and break method.

Penn Electric Switch Company

306 12th Street Des Moines, Ia.

URGES ALL INTERESTS TO CO-OPERATE NATIONALLY AND LOCALLY

(*Continued from Page 5*)

hour consumption per year varied from 200 to 700—the minimum and the maximum—entirely explainable by the difference in the habits of or the number of people in the home, or at least by some factor which the electric lighting company couldn't or at least didn't, regulate.

"I mean this: If it were possible to place, overnight, in the home of every electric light and power company customer in any town, twice the wattage in appliances and light, not by any means could the light and power company sit back and say, 'There, we have doubled our load.' There intervenes the elusive human element, the habits of each individual household. Given Home A and Home B, exactly comparable in the wattage of appliances and light, still, Home A, in many instances, as stated, consumes twice or thrice the amount of current used by Home B.

"But, place in Home A and Home B electric refrigerators of the same demand, and we have detoured the human element and the habits of the home users, excepting in only a minor degree, and are then in a position to write definitely down, to a close approximation, the increased consumption we may confidently look forward to from each of those homes.

Results of Philadelphia Survey

"Substantiating those assertions, I have the stated experience of many of the better-informed sales managers of electric service companies, based upon their observation and more or less casual surveys of individual and group, customer accounts. But, better than that, I have the exact results of two scientific surveys by two light and power companies, made of large and representative customer groups within their respective cities. These two surveys, made independently of each other, show surprisingly, or, perhaps, not surprisingly similar results. One of these I am at liberty to quote. It is a survey made by the Philadelphia Electric Company and is available through the courtesy of M. C. Huse of that company.

"This survey, to quote in part from Mr. Huse, was a series studies of the uses of electricity in Philadelphia residences. In making the tests, representative types of houses were selected and definite groups isolated on single, secondary circuits. The survey was made to secure an accurate record of connected load, including both lighting and appliances. The total number of houses was 1,224, including two-story row houses, two-story semi-detached houses, three-story row and semi-detached houses, and apartment detached houses. Ten representative customers were then selected from each group, and curve drawing instruments were installed in these residences. All appliances used were identified on the chart by information secured daily from the customer. These groups were tested each week for five weeks and the types of houses were so distributed that any variation would affect all groups in a similar manner.

Little Relation Between Connected Load and Current Consumed

"To determine the relation between a customer's consumption and connected load, analyses were made of each of the groups. The customers were classified according to their consumption in increments of one hundred kilowatt-hours per annum. The consumption of connected lighting load and connected appliance load was then averaged for each segregated group and plotted. The result in curves shows the relation between the connected load, both lighting and appliance, and the kilowatt-hours per annum for customers living in the same type house in the same neighborhood.

"It is at once apparent from these curves that the total wattage had little to do with the consumption; in some instances an increase in kilowatt-hours from 100 to 600 was accompanied by a difference of only about 10% of the connected load; this difference was definitely accounted for by the varying habits of individual customers.

"The sale of all types of appliances has been widely advocated as a true remedy for all the real and imaginary ills of the residence business. But, with the lapse of time, despite great increases in certain types of appliance saturation, conditions are still far from satisfactory and the problem of improving the residential business is still with us.

"From progressive data gathered in Philadelphia several facts are indicated with relation to the real effect of the appliance load upon the residential load factor and income—excluding those few appliances previously excepted.

"A survey of appliance densities was made in Philadelphia back in 1921. Those percentages on the better known home appliances, as compared to the percentages of density or saturation as disclosed by the recent survey, indicate effective activity in appliance selling in the intervening period. The density on electric irons (those figures are closely approximate) from 69% to 89%; on curling irons from .8% to 9%; on percolators from 4% to 8%; on grills on waffle irons from .6% to 4%; on toasters from 12% to 30%; on percolators from 4% to 8%; on grills from 1.5% to 2%; on vacuum cleaners from 48% to 75%; on washing machines from 14% to 32%; on radiant heaters from 2% to 8%. The total shows that in that five-year period the appliance saturation in Philadelphia increased 70%—in other words, lacked only 30% of doubling.

Problem of Inducing Consistent Use of Appliances

"Keeping those percentages in mind, here are some interesting figures that conclusively prove that the lighting company's job is only *begun* when most electric appliances are placed in a home, and that the *real* task for the electric service company *is to devise ways to induce customers to consistently use those appliances after purchase.*

"Despite that exceedingly large increase in the Philadelphia appliance load, of the type indicated, the lighting consumption during the peak period of November and December, following the last survey, was 82.2% of the total amount of electricity consumed by the customers under test, leaving only 17.8% for all those and other similar appliances, including 11.8% for the electric iron. All of those other appliances, excluding only the iron, consumed only 6% of the total current used. Showing that, notwithstanding the better and average saturation of that type of electric appliances, the lighting plus the electric iron accounted for 94% of all the current used in the home.

"Even though one wishes to take into account the fact that the appliance load is more constant throughout the year than is the lighting, so that a test made in the summer months would show a greater relative consumption for the appliance load then than in the winter, still the change would not be material enough to alter the lesson taught by these figures.

"Domestic refrigeration, where introduced, makes a radical change in that load situation. The annual load factor is immediately improved. The average consumption is more than doubled (an accepted average figure for home refrigeration is 500 kw. h. per year), while the generation and distribution costs are not materially increased. Electricity is then purchased with that part of the budgeted income which was formerly paid for ice and spoiled food, and there is increased comfort and satisfaction for the user of electric service.

Electric Refrigeration Doubles Load Automatically

"Again emphasizing that I in no way intend to infer that light and power companies should do other than intensively market all types of appliances, still I insist that if the revolutionary increase in kilowatt-hour consumption that is desired is to be accomplished, we must put into the home an electric service-using device, such as the electric refrigerator, which in its consumption of current is automatic and in the main independent of the whims and habits of householders.

"Convinced, as should be electric utility men, that electric refrigeration does offer at least one sure solution to the need for increased home consumption, assuredly the interests of the manufacturers of electric refrigeration and of the electric light and power companeis are incontestably joined.

"The troubles that beset the best development of those interests are not to be removed by convention addresses such as this, by letter writing, nor by bitter criticism destructively offered, but they can be cured by working together, as suggested, in close co-operation, through national association meetings nationally, and through group meetings locally.

"The company and the individual that have most at stake are the local electric company and the executive in charge of its development. Looking at his load problem in the most sensible way, he must realize that every dependable electric refrigerator that goes on his lines is an important revenue maker for him, and, merely because his smaller merchandising interests, may be touched by competition, he should not lose sight of that basic fact.

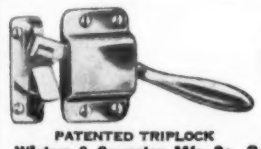
Most Complaints Based On Local Practices

"Much of the complaint that is made—perhaps not all of it justified, but probably some of it grounded in fact—grows from conflicting and antagonistic local practices. It has been well suggsted that, working down through the industry to the very home of the customer, the needed co-operation I advocate can in most localities be secured by group meetings of all refrigeration interests, called and held together by light and power company sales managers functioning in the broadest and most constructive way.

"I suggest that the Refrigeration Committee of this Association make this national and local co-operation the first order of business during the next administrative year. Tying in with the activity N. E. L. A. headquarters; working with and through it, the development of this plan is entirely practical through the already established geographic divisions, state associations and local leagues in most cities of importance, and by direct appeal to the executives of light and power companies in those other cities not so covered.

Responsibility of Electric Light and Power Companies

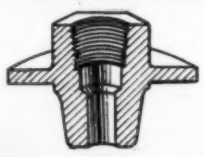
"If electric refrigeration is to be developed in years in place of decades, as it must if it is to be of greatest service to light and power companies, then those companies must realize *now* that the responsibility and the task is theirs, that it is too monumental a job for them to conquer without the genuine co-operation of all other interests, and that that co-operaion they must inspire and foster. The starting place is perhaps in their attitude toward the manufacturer and the dealer. The starting point is the application of the practical suggestion made—national and local group meetings of all parties of interest, under electric service company initiative and leadership."



Distinctive Refrigeration Hardware

PATENTED TRIPLOCK
Winters & Crampton Mfg. Co., Grand Rapids, Mich.

BRINE TANKS · HOUSEHOLD AND COMMERCIAL SIZES
SPECIAL SIZES AND EXPERIMENTAL TANKS
Equipped to Give Immediate Service for Anything in Sheet Metal
E. W. KREIDER COMPANY - Halfway, Michigan
A Suburb of Detroit



Hot Die Pressed Forgings
Valve bodies, tees, elbows, evaporator headers,—anything in the line of brass parts made to your specifications. Rough forgings only. The largest producers of refrigerator forgings in the country.
Send your specifications direct to
ROME MANUFACTURING COMPANY, Rome, N. Y.
Factory Representatives, F. B. Riley and Associates, 320 Beaubien St., Detroit, Mich.

ELECTRO-KOLD
The Simplest Electric Refrigerator

ELECTRO-KOLD has been in actual factory production for *4 years.*

ELECTRO-KOLD is sold throughout the entire eleven Western States, and in British Columbia; Hawaii; Japan; and Australia.

ELECTRO-KOLD is merchandised by the leading Western Power companies.

ELECTRO-KOLD has a complete line of domestic, apartment and commercial machines, including a Multiple Control for apartment installation that is extremely simple, yet absolutely positive.

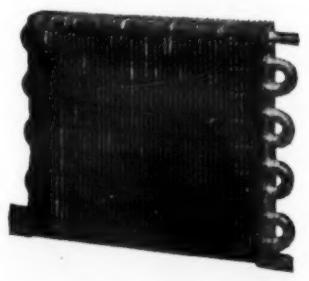
ELECTRO-KOLD is the largest manufacturer of electric refrigerators in the West.

ELECTRO-KOLD CORPORATION
Spokane, Wash.

Flintlock Condensers
EFFICIENT · ECONOMICAL · COMPACT
for
Electric Refrigeration

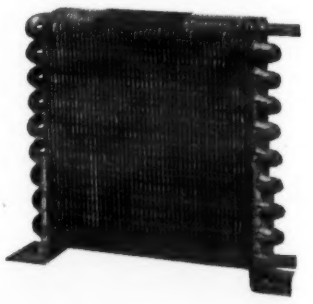
Size of Core
14" x 19½"
Three rows of Tubes for Commercial Units

One row of tubes for household use



Flintlock Condensers can be furnished in any size desired—from the smallest to the largest. Our booklet giving complete data gladly sent on request.

Two rows of tubes for household units



FLINTLOCK CORPORATION
4461 West Jefferson Avenue :: :: :: Detroit, Michigan

How to Use the Spot Light Effectively in Selling Electric Refrigeration

A Study of Successful Store and Window Display Methods in Which White and Color Lighting are Contrasted to Advantage

By Willis Parker

The spot light is one of the best salesmen the dealer in electric refrigerators may have on his staff—from a display and demonstration standpoint. Placed out of sight of the window shoppers, the spot light serves as an invisible finger pointing out some salient feature of the appliance, some pertinent message regarding refrigeration. It is the star performer in the illuminating cast. In connection with color illumination as well as ordinary window illumination, the spot light does its best work, in the same manner that the star actor in the play best puts across his ability as an actor when backed up by the efforts of the lesser lights.

An investigation of the uses of modern illumination schemes by dealers in electric refrigeration—the Denver Branch of the Frigidaire Company, the Western Appliance Company and the Public Service Company—as well as noting the uses other business firms put the spot light to, bring out the principles of modern illumination and simplify the technic so that any wide-awake dealer may apply them with assurance of getting greater results from the time, effort, and money he spends in decorating his windows and illuminating the merchandise in his shop.

Color Attracts Attention

We have found that colored illumination forms an excellent means of attracting attention to the window and creating an atmosphere that accentuates the sanitary and frigid qualities of an electric refrigerator. Unfortunately the first result—that of attracting attention to the window in competition with the white light illumination used by other merchants in the region—cannot be obtained without casting a warm tone over the main article of the display—the white enameled electric refrigerator—unless the spot light thrown against the refrigerator is strong enough in its white light to overcome the color tints cast on the surface by the colored lamps. A strong steel blue light from the spot will kill the color on the merchandise so that the combination of color illumination, and the white or steel blue spot light enables the dealer to accomplish two valuable motives in window displays—first attracting attention to his window, and second directing the attention of the passersby, who are originally led to the window by the color lighting flooding on to the sidewalk, to note the main article of the display—the refrigerator.

Spot Light on Floor Illuminates Interior of the Refrigerator

As a general thing, an electric refrigerator is displayed with some of the doors ajar so that the interior mechanism and accommodations for food products may be exhibited. The ordinary transom bar reflectors are located so high up that the intensity of light near the floor of the window is insufficient to fully illuminate the lower part of the merchandise, and furthermore are not so placed as to throw a light into the interior of the refrigerator. A spot light overcomes this fault. By placing the spot light on the floor and shielding it so as to somewhat conceal it from the view of the window shoppers, the interior of the refrigerator may be more easily inspected by the public.

Invisible Finger Points to Sales Message

Sometimes the dealer has a printed message that he desires to put across. He can use the spot light as an invisible finger to point out the message by throwing a strong beam of light upon the card and its message.

One of the most effective uses of the spot light is to so focus the beam that it sheds a strong light over the entire refrigerator, and burns when all of the other lights in the store and window are turned off. A pure white refrigerator against a background of natural blackness, stands out in exceptional prominence under the spot light.

Often it is desirable to tint the high spots of a display with color. Taking, for example, a refrigerator that has much nickel work upon it. The polished surfaces reflect the light, and if a spot light is located off to one side and it is equipped with a color shield, preferably green in connection with a refrigerator display, a green tint will tip the edges of the metal fixtures, and add materially to the artistic effect.

A most interesting use of the spot light, or several spot lights, is in connection with a display featuring the mechanism of an electric refrigerator—a display so constructed that the coils are shown frosted over. The crystals of the ice may be made to appear as diamonds by throwing colored light at an angle upon the display. It is advisable to have white light predominating, and this may come from a source on the same line as the spectator's gaze—that is, located above and in front of the display. On either side may be spot lights burning under color shields. A red shield on one, for example, and a green one on the other. A scintillating, dazzling effect is thus gained—an effect that is most pleasing to the passersby. However, the dealer must be cautioned not to locate the spot lights too near the display, lest there will be sufficient heat from the lamps to smooth down the surface of the frost so there will be no rough edges to reflect the light rays.

Flood Lighting Floor Display After the Store Is Closed

A spot light with flood light properties, too, is effective as a means of illuminating the stock of refrigerators shown on the sales floor. If the dealer desires to do so, and his windows are not constructed for advantageous display, he can form his display further back in the shop, or directly in front of the front door, and by means of the spot light, make the display stand out prominently against a black background of the interior.

If the flood light properties of some spot lights are utilized, the dealer may save considerable on his electric light bill by throwing a strong light from one appliance against a row of electric refrigerators, and illuminate them sufficiently as to be seen by passersby, instead of burning his interior lights, which cast illumination on the back and sides as well as fronts of the refrigerators. The public can't see the back or sides, so why waste all that illumination?

MARTIN EXPLAINS USES OF DRY ICE

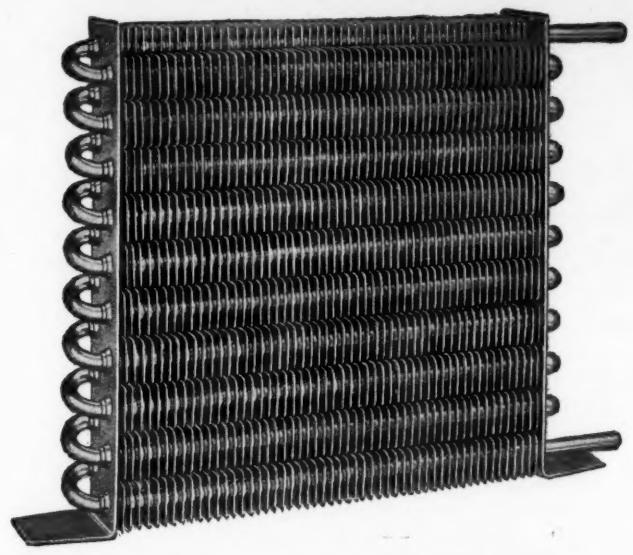
Says New Product Will Not Conflict With Electric Refrigeration and Water Ice

The development and uses of dry ice were explained in an interesting talk given by J. W. Martin, assistant to the president of the Dry Ice Corporation of America, at a recent meeting of the New York Section, of the American Society of Refrigeration Engineers.

"There is a field entirely separate for the dry ice industry which will not conflict with the electric refrigeration and water ice industries," Mr. Martin stated. "During the last two years a great deal of progress has been made in the adaptation and use of dry ice. Among them is its use for packing ice cream in cartons, the shipment of ice cream by parcel post, and it has been used successfully in the shipment of fish in carload lots."

Mr. Martin said that in a recent shipment of a carload of fish to Detroit, the shipment went forward with 100 pounds of dry ice and it was reported that it was received in very good condition, whereas water ice would use about seven or eight tons for the same commodity and distance. The feature that has been brought out in dry ice is that the gas or CO_2 escapes; it acts as an insulator, giving additional refrigeration value because of the CO_2 in gas form being very low in heat conductivity.

At the present time, according to Mr. Martin, the dry ice that is being manufactured, is packed so that it has a specific gravity of about 70 pounds to the cubic foot, and according to the Bureau of Standards in Washington it is given a rating of 114.5 degrees Fahrenheit below zero.



BUSH CONDENSERS

SEAMLESS COPPER TUBES
INDIVIDUAL FINS
MAXIMUM EFFICIENCY

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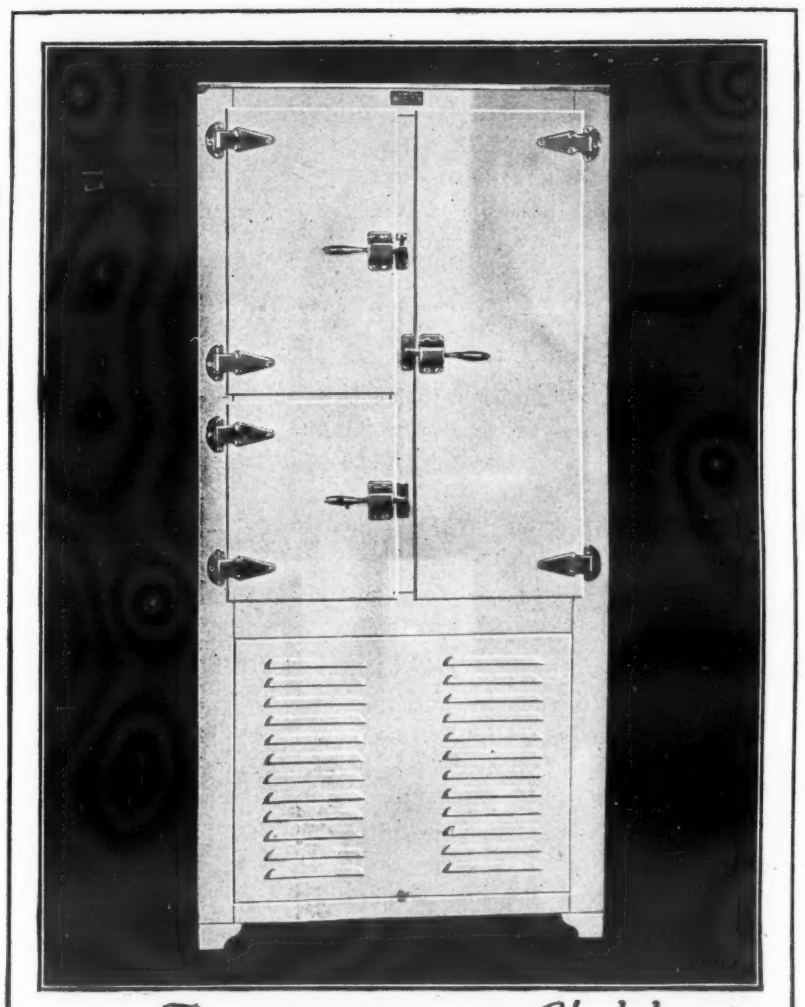
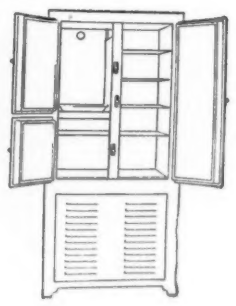
Hartford, Conn.

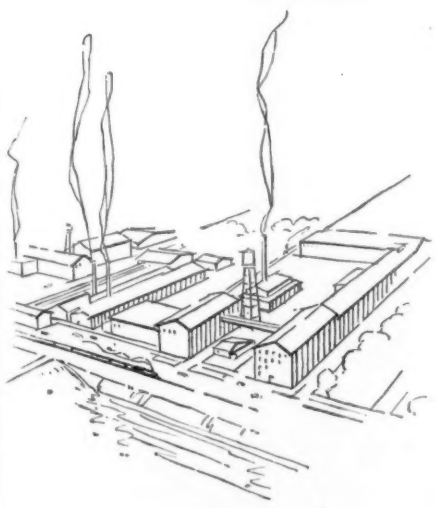
White - Hanna
302 Lincoln Bldg., Detroit, Mich.



The REXMOOR Model

ARMCO Ingot Iron





Rex builds only one product in the refrigerator field—Rex fine metal cabinets for electrical refrigeration. And Rex cabinets clearly reflect the quality advantages of this policy.

Rex
REX MANUFACTURING CO.
CONNERSVILLE, IND. U.S.A.

FINE STEEL CABINETS FOR ELECTRICAL REFRIGERATION

Among Food Merchants

McCray refrigerators are recognized as the standard of quality and service among food merchants everywhere. This widespread acceptance of McCray is of exceptional value to the electrical refrigeration dealer. All McCray models are ready for use with any type of electrical or mechanical refrigeration.

Correspondence invited from interested dealers.

McCray Refrigerator Sales Corporation
DEPT. 66, KENDALLVILLE, IND.
Salesrooms in All Principal Cities — See Telephone Directory

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ELECTRIC REFRIGERATION NEWS

The Business Newspaper of the Electric Refrigeration Industry

PUBLISHED EVERY TWO WEEKS BY

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JUNE 8, 1927

The Message of the Committee

It is interesting to note that of all needs, problems, ills and opportunities which pertain to electric refrigeration, the speaker selected to discuss the subject at the N. E. L. A. convention should unhesitatingly pick "industry co-operation" as the most important phase of the situation and the one offering the greatest possibilities for constructive effort during the coming year.

Considering Mr. Bennett's intimate experience with the pioneer co-operative organization of the electrical industry—the Jovian Order—it is not difficult to understand how he might, in expressing a personal viewpoint, lay stress on co-operation. But Mr. Bennett's address represents far more than an individual opinion. In preparing for his assignment he went to more than usual lengths to collect the news and ideas of others. Knowing that he took his job seriously and performed conscientiously, having long editorial experience in digesting data of this character, it is fair to assume that his findings are based upon a comprehensive understanding of the situation today.

If anyone should doubt the speaker's grasp of the subject, it is quite possible that his conclusions are as sound as if based upon unquestioned knowledge. It will be noted in the early part of his talk (which is published in preceding pages of this paper) that Mr. Bennett hints, rather delicately, at a complete lack of agreement in the viewpoints of the sources of opinion which he investigated. It is conceivable that none of the letters which he received even mentioned co-operation, but that he was forced to arrive at this answer because of the sheer diversity in the material collected.

Co-operative Facilities Needed

Something needs to be done to get this industry together to solve its common problems—that much is evident to anyone who has an opportunity to see the industry broadly. Just what and when it should be done, and who should do it, are questions not so easily answered. It may be necessary to have more fingers burned, more toes stubbed, before the industry will be in a proper frame of mind to approach the subject considerately and intelligently. It may be that the industry is, as yet, too young, too full of self-interest and inexperience to give proper attention to mutual welfare.

The electric refrigeration industry cannot be said to have lacked leadership in its co-operative problems after having had the benefit of the enthusiastic efforts of J. Robert Crouse, "the father of co-operation" in the electric field. The movement organized by Mr. Crouse two years ago had a most auspicious beginning and held promise of being the most unique and successful program ever undertaken in American business history. In proposing the plan, Mr. Crouse had hoped to short-circuit that period of misunderstanding which had always, previously, preceded every co-operative development.

Purposes of Co-operation Little Understood

But just as there are differences of opinion regarding the methods of marketing electric refrigeration, so there are a wide range of views on the subject of co-operation itself. The fact is that comparatively little is known about co-operation. Its purposes are only vaguely understood. What the word means to one business man is often almost diametrically opposed to what it connotes to another. The rules of *competition* are fairly clear. Competition is the life of trade, it is said. The young business man, the merest apprentice, learns to talk and think about competition from the start. Co-operation—well, that is something you do afterward.

The Electric Refrigeration Council seems to be in a state of polite acquiesence, but after all, co-operation, in the electric refrigeration industry, is not dead. As might be expected, the engineers are getting together, even if the sales managers are not. They are exchanging information, setting up standards, agreeing upon terminology—making progress—with little regard for the terrors of competition.

During the past year the Electric Refrigeration Committee of the National Electric Light Association has done some excellent work in studying commercial phases of the subject. The committee has succeeded in stirring up a most active interest in the market possibilities and in focusing attention of central station executives upon the requirements for successfully promoting the use of this appliance.

Now, as a culmination of the year's work, the committee's spokesman has pointed out distinctly the job to be done during the coming year. This clean-cut statement of the case should materially aid in speeding up the progress of co-operative activity both nationally and locally.

Give Attention to Presentation in Electric Refrigeration Merchandising

Texas Dealer Holds Classes to Teach Housewives How to Prepare Foods

By B. C. Reber

It is a well known fact that the success of a product depends on the manner in which it is presented to the public as much as upon its intrinsic value. Many inventions, both useful and valuable, have been lost to the public through lack of proper merchandising presentation. The method of getting over the message is of prime importance in salesmanship, regardless of the article which is being sold.

During the short time that the Kelvinator San Antonio Company of San Antonio, Texas, has been developing the territory in which they

are located special attention has been given to this matter of presentation. How this has been done and the results that have been achieved are best told by James B. Gilmer, president and general manager.

"We have given careful attention to the art of getting our product before the public in a proper manner," Mr. Gilmer explained. "This requires an analysis of the product itself, its purpose, what it means in the home, who in the home should be most interested in owning a Kelvinator and how this person may be interested to a point where the sale may be made.

"We have used several plans which have proved successful. A short time ago, when one of the local newspapers held their annual cooking school in the Municipal Auditorium, we took an active part. We had a booth showing the different models and held daily classes showing how the food should be prepared and placed so as to obtain the best results.

"These classes were held in the morning and were very well attended. The booth was laid out in the form of a kitchen, making it convenient for all of those present to see just how the various items of food were arranged. We also prepared frozen dishes and gave instructions on how to prepare them in the proper manner. Then, after the cooking school in the afternoon, we served a luncheon made up of those foods which had been prepared during the previous session.

"This method of presentation proved one of the most popular and productive plans which we have yet used, and not only brought us a large number of prospects, but enabled us to close quite a number of sales as well.

"We have a competent lady, Mrs. H. N. Warrensburg, who acts as our hostess on such occasions. She is thoroughly experienced in home economics, and can bring out a greater value and in a better way than a salesman.

"After Mrs. Warrensburg has interested the housewife in the various ways in which foods may be prepared through the use of the electric refrigerator, a salesman calls on the man and his wife to close up the sale. We have found that this method is a most effective and profitable one.

"We also place Kelvinators in the model homes which are constantly being built in and around San Antonio. These homes are visited by thousands of people, and it gives us an excellent opportunity to show them the interesting features of electric refrigeration. We also make use of billboards and display signs wherever possible, especially around the model homes where we have Kelvinators installed.

"A third plan which we are using and which is proving a very good one, is the broadcasting of short addresses on the value, purpose and use of the Kelvinator in the home. One of our local broadcasting stations, WOAI, is used one hour each week. It is known as Kelvinator Hour and is so announced in all programs and publicity.

"We have a conveniently located sales and display room, with entrances from two streets. We have furnished this as attractively and comfortably as possible. A competent salesman is in charge.

"We have learned that proper presentation and vigorous selling will always bring in business and we are constantly on the alert for any home builder who should have electric refrigeration and which would make it a good prospect. Through these practices we have been able to close our first year with a very good volume of business and are looking forward to even better business during the current period."

Electric Light Companies Stop Many Radio Howls

Damaged and Worn Out Appliances One Cause of Trouble

What causes radio sets to howl? So many people have immediately blamed the electric light and power company that for more than a year most companies throughout the land have maintained trouble-shooting crews that have run down many a squeal and eliminated it to the immense relief of set owners. In Rochester, N. Y., the records of the radio trouble department show that of interferences corrected during 1926 one-fourth were due to defective street lamps, one-fourth to the electric service company's lines, 14 per cent to internal disorders within the sets themselves, 8 per cent to nearby factories, 7 per cent to faulty house wiring and worn-out or damaged electrical appliances within the homes, and the remaining 21 per cent to a wide variety of isolated causes. The company spent several hundred dollars a month making radio reception better.

Your Paper Is Interesting

"We think your paper is very interest-in."—Henry Klaus, sales manager, Klaus Radio and Electric Co., Eureka, Ill.

CHIL-DARE ADVERTISING TO BE DIRECTED BY KEELER AND STITES COMPANY

Recent announcement has been made that Chil-Dare electric refrigeration advertising will be directed by the Keeler & Stites Co. of Cincinnati, Ohio. Chil-Dare electric refrigerators are manufactured by the Stanley A. Morsbach Company of Cincinnati.

Best Bros. Appointed Crysteel and Zerozone Dealers in Central Illinois

Best Brothers have been appointed Zerozone and Crysteel cabinet dealers for Quincy, Ill., by the Peoria Tent and Awning Co., distributors for these two lines for 39 counties in central Illinois. R. W. Tippitt, sales manager of the Peoria firm, states that sales for the first quarter of the year were exceptionally good.

Like a Letter from Home

"Each copy of this wonderful paper is anticipated with as great anxiety as a letter from home. It is without a doubt that your paper is the most complete and detailed of any paper on the market today."—Frigidaire Sales Branch, 419 N. P. Ave., Fargo, N. D.

TASTY CHEESE DISHES

From the Electric Refrigerator

By Selma E. Dahlgren

There are a number of delectable dishes that can be made with cheese and served as entrees if one has a refrigerator whose temperature is cold enough and dependably uniform as in an electric refrigerator. So many people constantly seek meatless menus as a change from the heavy fare usually served during the cold months of the past winter that cheese suggestions are timely.

For instance, there is molded cottage cheese. This is an excellent salad to decorate and serve from a large plate at the table. The gleaming white of the cottage cheese makes a nice, clear contrast with garnishes which may be used to line the mold or the refrigerator pan in which the cheese is frozen. These are the ingredients:

Molded Cottage Cheese

2 cups cottage cheese
½ cup cream
1 teaspoon salt
½ teaspoon paprika
1 tablespoon gelatine
¼ cup water

Pour the water over the gelatine, let soak five minutes and then heat in the top of a double boiler until the gelatine is dissolved. Combine with the cottage cheese, mix with the cream and seasonings and turn into a mold or the refrigerator pan. Freeze for one hour and turn out on a chilled salad plate. Garnish with neat little mounds of chilled fresh fruit salad which has been thoroughly mixed with a boiled salad dressing. A good combination of fruits is a mixture of raw pineapple cut in rather large cubes, sections of grapefruit and oranges, and fresh strawberries or red raspberries.

Raw vegetable salad may also be served with the cheese mold for a more filling entree. Chopped cabbage, green pepper, and celery mixed with a little grated carrot or slightly cooked beets cut in fancy shapes stirred together with a generous amount of mayonnaise made tart with India chutney is an appetizing accompaniment to the molded cheese.

Marbled Cream Cheese Mold

Cream cheese, frozen in layers with spiced fruit, apple butter or preserves, is a delicious dish to serve either as a substantial dessert or as a salad or entree to be helped out with sandwiches or generous servings of nut bread.

The cream cheese may be used as it comes from the package or may be mixed with finely chopped nuts, peanut butter, pimientos, olives, capers or a tart mayonnaise—or a combination of two or three of these savories.

Some "Famous" Combinations

Orange marmalade, cherry or strawberry preserves, mashed spiced crabapples, guava or currant jelly, as well as the other fillings mentioned, are only a few of the possibilities of "famous" combinations to be worked out with this recipe. A small amount of minced ham or left-over cooked fish might well be used instead of a fruit filling, with a garnish of thinly sliced cucumbers and a firm red tomato to complete the dish.

One hour of freezing in the ice-pan compartment with the temperature at 20 degrees will make such a mixture just hard enough to slice nicely for serving.

WHAT PRICE DISTRIBUTION?

Concentrated Effort in Limited Area vs. Spreading Over National Market

By John J. Farrelly
Normandy, Mo.

Much has been written lately of the high cost of selling. There has been some criticism of production costs, but I'm inclined to believe that production is on a more economical basis than sales.

I have had a little experience in the sales of different products, and have seen many cases where lack of a definite goal or a definite purpose allowed many costly extravagances to creep in. One of the greatest extravagances, to my way of thinking, is the lack of concentrated sales effort in restricted sales areas—and this on the part of many large organizations—due greatly to the desire to accomplish "complete distribution" so the company may advertise in a certain large and powerful medium.

I haven't any fault to find with this advertising medium—or any other—I am one of its greatest believers for some products. But I do believe that much of the money spent in general mediums could be concentrated in a few chosen localities, and distribution and retail turnover be more thoroughly effected in those chosen localities to the advantage and profit of manufacturer and dealers.

Now, having cast my lot with this "infant industry," I have been giving some thought to the sales side of the story. Being in the sales department—ringing door bells, telephoning, etc.—I am naturally more interested in this phase and am trying to find the ways to make my work easier—and more lucrative. I have "gone back" from my position in the line of attack in trying to solve my problems. The ideas I am propounding here are not offered as a panacea, but just as thoughts that have come to me in my work.

I am assuming that the manufacturer entering the electric refrigeration field has made extensive experiments with his machine, and has proven it out to his complete satisfaction. I am assuming his manufacturing methods have been capably planned and hold his manufacturing costs within proper limits.

What does he do next? He goes out across country and gets a lot of distributors lined up and perhaps helps these distributors get some dealers under contract. And, bang!!! goes eight thousand dollars for a page of advertising, to be followed by eleven similar pages throughout the ensuing year. The manufacturer is established—he admits it—he has so many distributors, so many dealers, his advertising is reaching ten million people twelve times this year, and he's going to produce five thousand, ten thousand, or fifteen thousand units.

Perhaps I'm putting it on a little strong—you be the judge of that as your own experience dictates. I have seen just such loose jointed, top heavy sales propositions laid out.

To Many Changes

Now, let's get down to cases. There are altogether too many companies coming and going in this industry to make for healthy conditions. There are too many changes of names and reorganizations. Some of these are due to faulty mechanisms—others to taking in too much territory.

This is a new industry and one that does require now, and will require for several years to come, a great amount of missionary work—educational work.

This has been referred to as a "toddling industry," and I believe the description pretty well fits the picture. I don't see where any manufacturer has as yet attained perfect balance and a sure step. The best of them have refinements to make in their products or their sales plans. It seems to be the ambition of all the manufacturers to "toddle" and "sprawl" out over the greatest amount of territory.

I am just wondering who is going to be the first to walk—who is going to attain full height and a firm step ahead, even though it be in a restricted area.

Now, let's say a certain manufacturer has proven his machine and is ready to market. He sets his production at ten thousand units for the year. Let's say he has found there were two thousand competing machines sold in the home town the past year, and he picks out three or four other good cities where the markets the past year were satisfactory and large numbers of machines were sold. These cities are within comparatively short distances from his manufacturing point.

If he spends ten dollars per unit on advertising—to use an arbitrary figure—by concentrating his whole fire on those four or five towns he could dominate them.

He could give his dealers or distributors in those few towns more attention and greater support in every way. His shipping costs would be lower. His service costs would be lower. His cost of instructing the dealers, their salesmen and service men would be much less. His dealers' salesmen and service men could even be brought to the factory for instructions at comparatively low cost.

The manufacturer's sales organization would be in closer touch and be better able to jump into the breach and help the dealers out if necessary. Traveling expenses would be materially cut.

There are innumerable ways in which this plan of action would work to greater economy in every way and attain more satisfactory and more lasting results.

Isn't it better to dominate a few localities and then spread out to a few more as production increases, than to spread out all over the country in order to see your name in print in the magazines? Isn't it better to walk upright in a given area of smooth, known territory, than to crawl, sprawl and stagger up hill and down dale?

Sure! Everything has its holes. There might be a business depression in some of those cities. Pick out cities of different industrial tendencies. You'll be close enough to have your finger on the pulse at all times. And, it might be fine for six months from now to have concentrated on a certain town while the other fellow was laying off and singing the "No Business Blues."

I believe many manufacturers are selling in forty-eight states when their home state could absorb their total outputs. I believe herein lies part of the solution of the high cost of distribution.

I wonder what price we pay for the glory of national distribution and national advertising campaigns.

RECIPES BY RICE

Rice Products, Inc., New York, has recently issued an attractive three-color booklet that contains the following recipes for frozen desserts and salads, and which were prepared for housewives owning Rice refrigerators by Miss L. M. Rivard, 3667 Baldwin Street, Detroit.

Perfection Salad

2 cups celery, diced
1 cup carrots, diced
1 cup cabbage, shredded
½ cup peas
2 pimientos
1 envelope gelatin
½ cup cold water
½ cup mild vinegar
3 tablespoons lemon juice
2 cups boiling water
½ cup sugar
1 teaspoon salt

Soak gelatin in water five minutes; add lemon juice, vinegar, boiling water, sugar and salt. When mixture begins to thicken, add vegetables. Turn into mold and put in cooling unit for one hour, garnishing with pimientos cut in long strips when sufficiently hard. Serve on bed of lettuce, with mayonnaise.

Frozen Fruit Salad

4 oranges
4 bananas
6 large slices pineapple
small bottle maraschino cherries
½ pt. whipping cream
¼ cup mayonnaise

Cut the fruit in small pieces and drain off juice. Mix fruit with mayonnaise, then fold in cream stiffly beaten. Pack in custard cups or small molds, let stand in cooling unit two hours and in food compartment two hours. Serve individual molds on lettuce garnished with either whipped cream or mayonnaise.

Tomato Aspic Salad

2 cups tomato juice
1 ½ tablespoon vinegar
1 teaspoon salt
1 ½ tablespoon minced onion
3 whole cloves
A few celery leaves
1 envelope of gelatin
¼ cup cold water

Soak gelatin in water. Put together all other ingredients and simmer 15 minutes. Add gelatin, stir until dissolved and strain into baking powder tin or other round mold. When cool, place in cooling unit for one hour, and then in food compartment until ready to serve. Turn out on a plate spread with lettuce, slice and cover with mayonnaise dressing. Finely chopped celery or cucumbers may be added just before placing in cooling unit, or sprinkled over salad before serving.

Pineapple and Cheese Salad

1 can shredded pineapple (with juice)
2 squares cream cheese
½ pt. whipping cream
3 tablespoons mayonnaise
1 small bottle maraschino cherries
3 teaspoons gelatin

Soak gelatin in a little cold water, and melt over hot water. Add to pineapple which has been chilled. Have cheese slightly warm and work to a smooth paste with a fork. Add mayonnaise. Add this mixture to whipped cream gradually to keep it smooth and mix thoroughly. Add pineapple. Drain cherries, cut in small pieces and add to mixture. Pack in mold and place in cooling unit for two hours, then in food compartment until ready to serve. Serve on lettuce garnished with whole cherries and a little mayonnaise dressing.

Bavarian Cream

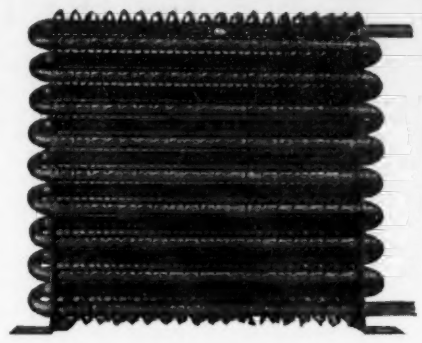
½ envelope gelatin
¼ cup cold water
1 pt. heavy cream (beaten)
⅓ cup sugar
1 cup scalded milk
1 teaspoon vanilla

Soak gelatin in cold water five minutes, dissolve in hot milk, add sugar. Set in pan of cold water and stir until it begins to thicken. Add beaten cream and vanilla. Turn into mold and chill for one hour in cooling unit. Then place in food compart-

(*Continued on Page 10, Column 2*)

"Air-Way" Condensers

Any size, any capacity. They look and act the part. The "AIR-WAY" condensers are made to meet the requirements of any equipment. They are highly efficient, keeping head pressures remarkably low. You will like them and the price is right.



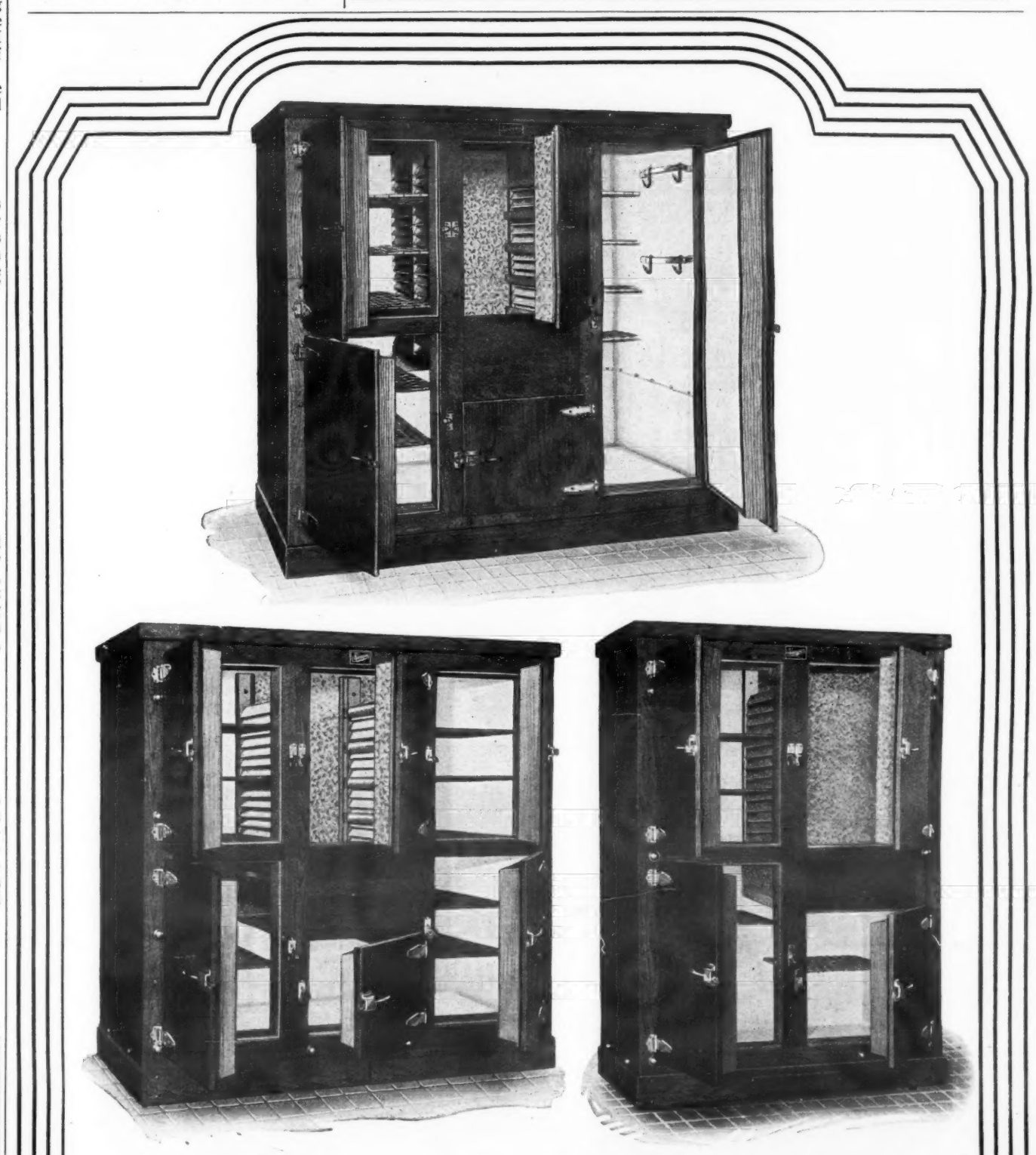
Brine Tanks and Expansion Valves

An experience gained by making many thousands of brine tanks for one of the three largest Manufacturers of Machines is expressed in our new standard line of BRINE TANKS and EXPANSION VALVES. We can meet your requirements in standard tanks in any cabinet from 4 to 40 cubic feet, —any refrigerant.

Ask for our bulletins on these appliances, — liquid receivers, liquid filters, strainers, ice trays, etc. You profit by our standardization. Write today to

FEDDERS MANUFACTURING COMPANY
BUFFALO, N. Y.

Factory Representatives, F. B. RILEY & ASSOCIATES
320 Beaubien Street, Detroit, Mich.



CABINETS BY Seeger ORIGINAL SIPHON SYSTEM

FOR COMMERCIAL USE

The Complete Line of Cabinets by Seeger for Commercial Use offers a desirable outlet for more power.

SEEGER REFRIGERATOR COMPANY
Saint Paul, Minnesota

Kelvinator-Nizer standard Commercial Freezing Tanks Constructed from Wilder Metal

WILDER METAL Has Proven Superior for Commercial Brine Tanks

—INSURES—

Permanence against corrosion at minimum cost

Prompt shipment of standard gauges and sizes from warehouse stock

SAMPLES FURNISHED ON REQUEST

WILDER METAL CO.
NILES, OHIO

Suggests More Paint and Powder for the Electrical Industry

By E. A. Graham, Servel Corporation

Assuming adequate buying power on the part of the prospective purchaser, which is easier to sell, an automobile or a high priced electric appliance?

Which of the two classes of apparatus will render the greater and more economical service to the average buyer?

Which will cost the least to maintain and with a minimum of maintenance give the longer life?

The usual answer to these questions is that the automobile is the easier to sell, costs more to operate, and for the pleasure user gives less real effective service and wears out sooner than the electric equipment, and there is no question but what the initial cost is so much greater than any electrical appliance that the sacrifice entailed in buying an autmoobile is incomparably greater than any device in the electric appliance class.

It is conceded by most everyone that advertising is one of the principal factors in the development of the sale of any article, and the more difficult the introduction of the article, the more advertising and propaganda work is necessary. That being the case, it is to be expected that the advertising of electric devices and electric service should be considerably in excess of that of automobiles.

That this is not so may readily be ascertained by a casual inspection of the advertising columns of newspapers and magazines of practically any country in the world. The writer checked up the advertising space in a recent issue of the Saturday Evening Post, and found that advertisements for automobiles and accessories totaled in the one issue approximately $600,000, against approximately $100,000 for all electric devices.

Naturally, a considerable amount of the automobile advertising is a result of the keen competition in that field, but the quantity and the character of the advertising undoubtedly command a great deal of attention from even the casual reader of such magazines, and assuming again that advertising has a distinct value in promoting sales, the electric industry should have devoted at least as much space to propaganda for their business as that devoted to the automobile trade. Is it not true that a great part of the indifference of the general public to the value and desirability of complete home electrification may be due to lack of the sort of advertising effort which paints the rosy picture of automobile ownership?

It is a well known fact in advertising psychology that the repeated hammer-blow consistently and efficiently maintained through long periods drives home the message that finally results in sales. Automobile advertising is constantly and consistently in front of us in some form or another in practically every community, and in this there must also be considered the important factor of salesroom displays. Compare the spacious, well equipped, well lighted and even luxurious automobile salons with the average establishment selling electrical devices. There are, of course, many well equipped display rooms in electric service company offices and not a few good electric shops, but in the majority of cases the automobile display room has the advantage not only as to appearance but as to location. A similar comparison may be made with the houses selling other luxury devices, such as phonographs, radio, etc., and as a rule the comparison is not in favor of the electrical device.

If it is conceded that it is more difficult to sell the idea of complete electric service in the home than it is to sell luxury articles such as the automobile, piano, phonograph, etc., and if it is agreed that advertising is one of the prime factors in breaking down sales resistance, should not those interested in the sale of electric service and electric service devices spend on advertising and display an amount commensurate with the value of the business and the sales resistance to be overcome in its maximum development?

The question arises—who is to bear the burden of such propaganda? Clearly, those who profit most from the business, which means not only the manufacturers and distributors of the devices, but also the electric service companies who in the long run receive the greatest benefit and the only continuing revenue from such sales efforts.

Advertising may be divided into two general classes, national and local. Many manufacturers of electrical devices are already doing their share of national advertising, and cannot be expected to do local advertising, which should be taken care of by their local distributors. The electric service companies, a large percentage of which are national in scope or affiliation, are well provided with agencies that can handle national advertising of the electric industry, and the individual companies can take care of their local advertising. A great many companies do give considerable attention to this matter of local advertising, but it is the writer's opinion that, in general, both the volume and the appeal fall far short of that shown in advertising of automobiles and other luxury devices.

Is it not possible that the electric industry in general is entirely too modest in the display of its good points, and that a little paint and powder, etc., would help materially in awakening appreciation on the part of the public of the beauty and merits of the electric servant?

RECIPES BY RICE

(*Continued from Page 9, Column 3*)

ment until ready to serve. Red or green cherries or any favorite fruit may be added.

Macaroon Ice Cream

1 pt. heavy cream
2 doz. macaroons
⅔ cup powdered sugar

Pulverize macaroons, whip cream very stiff. Beat macaroons into cream, adding sugar as you beat. Pour into mold and place in cooling unit for two hours, then in food compartment until ready to serve. Makes a very attractive dessert when frozen in a ring mold, the center being filled with chopped fruit, topped by whipped cream.

Banana Mousse

1 cup mashed banana pulp
¼ lb. marshmallows, cut small
½ pt. heavy cream
½ cup sugar
1 cup broken walnut meats
1 teaspoon vanilla
⅛ teaspoon salt
1 tablespoon lemon juice

Add lemon juice to banana pulp. Whip cream, add vanilla, sugar and salt. Stir in cut marshmallows and walnut meats. Whip in banana pulp, pack in mold and place in cooling unit for one hour. Then place in food compartment until ready to serve. Garnish with slices of banana. Also deliciously served with crushed berries.

(Note: Marshmallows are most easy to cut when knife or scissors are frequently dipped in hot water.)

Raspberry Parfait

2 cups red raspberries
1 cup sugar
2 egg whites
½ pt. whipping cream
1½ cups water

Wash and mash raspberries; sprinkle with ½ cup sugar and let stand for three hours. Add the remaining ½ cup of sugar to the water and cook until it threads from the spoon. Pour, boiling hot, on the stiffly beaten whites of eggs, and beat steadily until cold. Gradually combine with the berries and fold in the whipped cream. Pour in mold and place in cooling unit for two hours, then place in food compartment until ready to serve. Serve in tall sherbet glasses topped with a little whipped cream and garnish with whole berries. If canned berries are used in place of fresh, the juice should be drained off before mashing them, and no sugar need be added. Strawberries may be used if preferred.

Peach Fluff

1 heaping teaspoon gelatin
Juice of 1 lemon
2 cups canned peaches pressed through potato ricer
1 pt. cream, whipped
½ cup sugar

Melt gelatin in cold water over tea kettle. Stir into peaches. Add lemon juice and sugar. Combine mixture lightly with whipped cream. Pour into mold or into individual glasses. Let stand in cooling unit one hour; then in food compartment until ready to serve. Garnish with pecan nut meats.

(If fresh fruit pulp is used, 1½ cup sugar will be needed. Otherwise, follow all directions.)

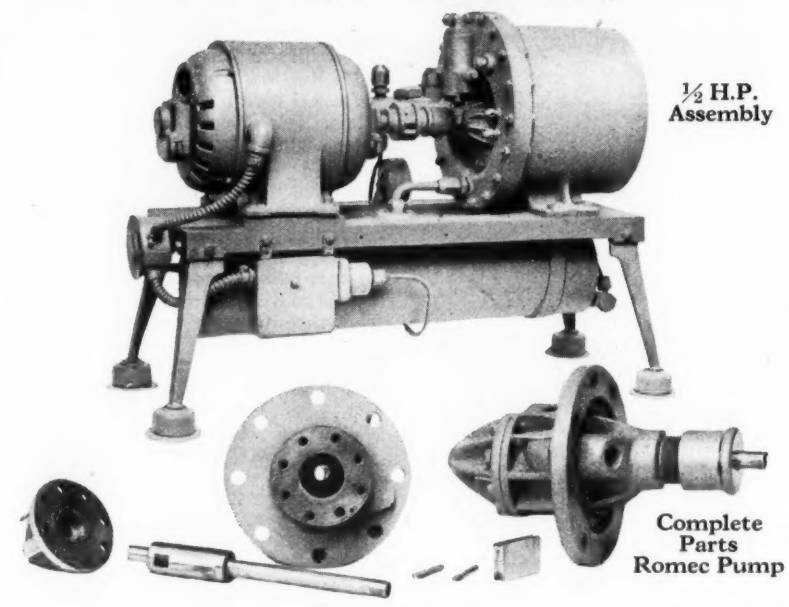
Grape Juice Fluff

1 egg white
¾ cup grape juice
4 tablespoons powdered sugar
½ pt. heavy cream
Lady fingers as needed.

Beat egg whites dry and stiff, and gradually add the grape juice, powdered sugar and cream, whipped stiff. Pour the mixture in the mold, lined with lady fingers. Place in cooling unit two hours, then in food compartment until ready to serve. Dip mold in warm water for a few seconds and then unmold on glass or china dish.

ANNOUNCING
the
Keystone Refrigerating Unit

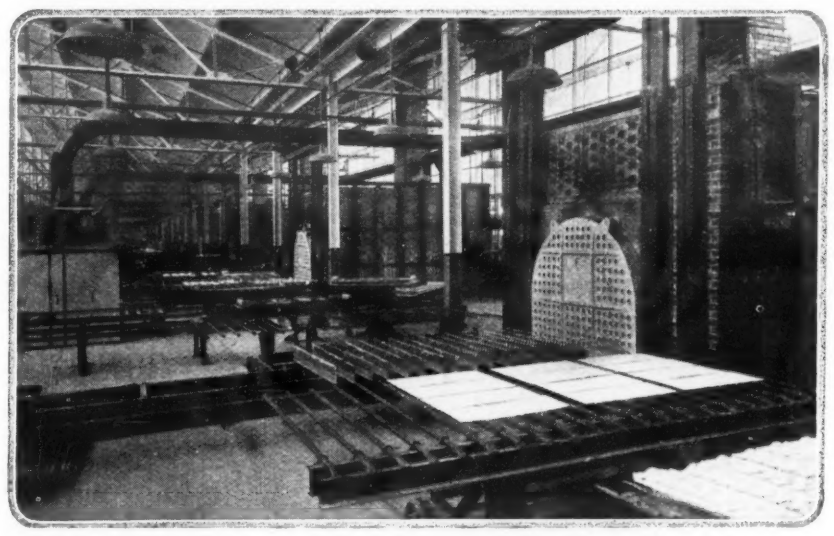
(IN PRODUCTION—OCTOBER, 1927)



Household and Commercial Refrigerating Units—sizes ¼ to 1 h. p.

Romec Rotary Pumps are unusually efficient for high vacuum refrigerating purposes and general pump use in capacities of 2-1250 G.P.M.

KEYSTONE REFRIGERATING CORP.
BEAVER FALLS, PA.
(Licensed Under the Romec Pump Patents)



A Modern Refrigerator Enameling Plant

THE production of high-class refrigerators depends on a good job of porcelain enameling. The best and cheapest way to insure getting quality work is to have your own porcelain enameling department.

Above picture shows the fifteen-furnace enameling plant of the largest electric refrigerator manufacturer in the world. Two years ago this company called on us to install for them a three-furnace plant, with continuous enameling equipment. Later they added two more furnaces, and recently installed ten more furnaces, making a total of fifteen in all.

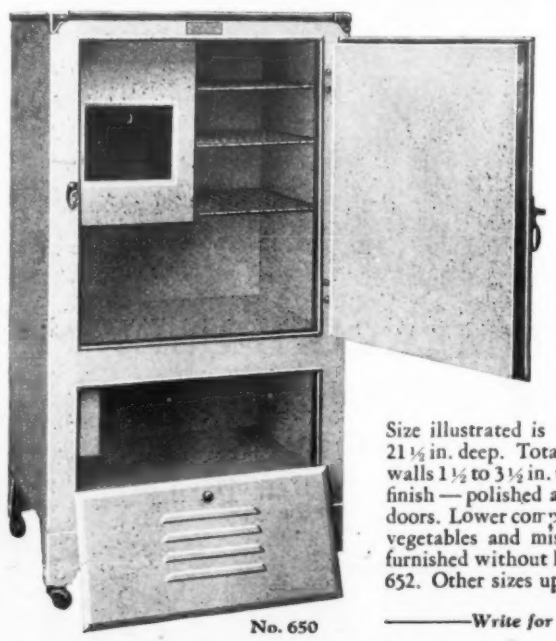
Our experience in this modern and rapidly-growing field has been exceptional, and we know that we can furnish you with better enameling equipment and better service than anyone else in the country. If you are interested in the idea of installing your own porcelain enameling department, write us for costs and information. You will be under no obligation for doing this.

Write for a copy of The ENAMELIST. Also for a free ENAMELIST Bridge Score Card.

THE FERRO ENAMEL SUPPLY COMPANY
CLEVELAND, OHIO

Crystal and White Steel
TRADE MARK

Apartment Refrigerators *for* Remote Installations



No. 650

Are going into apartment homes all over the country

Multiple hook-ups require an efficient steel refrigerator like the "Crystal" or "White-Steel". You cannot afford to experiment with unknown makes. We have been making steel refrigerators exclusively since 1910.

Size illustrated is 50½ in. high, 26½ in. wide, 21½ in. deep. Total interior 6½ cubic feet. Cork walls 1½ to 3½ in. thick—white or gray lacquer finish—polished aluminum trim—gaskets on doors. Lower compartment (not refrigerated) for vegetables and miscellaneous storage. Can be furnished without lower compartment—our No. 652. Other sizes up to 20 cubic feet.

Write for Catalog and Prices

CRYSTAL REFRIGERATOR CO., Fremont, Nebr.

CONVENTION DATES

Coming Meetings of Electrical and Engineering Organizations

American Association of Engineers, Tulsa, Okla., June 6-8. M. E. McIver, Secretary, 63 E. Adams St., Chicago.

American Association of Railroad Superintendents, San Francisco, Calif., June 14-17. J. Rothschild, Secretary, Room 400, Union Station, St. Louis.

American Institute of Electrical Engineers, Detroit, Mich., Jne 20-24; Del Monte, Calif., Sept. 13-16. F. L. Hutchinson, Secretary, 33 W. 39th St., New York.

American Society of Agricultural Engineers, St. Paul, Minn., June 22-25. Raymond Olney, Secretary, St. Joseph, Mich.

American Society of Civil Engineers, Denver, Colo., July 11-14. G. T. Seabury, Secretary, 29 W. 39th St., New York.

American Society for Testing Materials, French Lick Springs, Ind., June 20-24. C. L. Warwick, Secretary, 1315 Spruce St., Philadelphia, Pa.

American Washing Machine Manufacturers Association, Chicago, Sept. 21. E. B. Seitz, Secretary, 10 So. La Salle St., Chicago.

Association of Electragists, International, St. Louis, Mo., Aug. 8-13. L. W. Davis, Secretary, 15 W. 37th St., New York City. (Also exhibits.)

Association of Iron and Steel Electrical Engineers, Pittsburgh, Pa., June 13-17. F. W. Cramer, Secretary, Bethlehem Steel Corp., Johnstown, Pa.

Association of Municipal Electrical Utilities, Niagara Falls, Ont., June 23-25. S. R. A. Clement, Secretary, Toronto, Ont., Canada.

Canadian Electric Railway Association, Winnipeg, May 31-June 2. Eustace Smith, Jr., Secretary, 35 Yonge St., Toronto. (Also exhibits.)

Electrical Safety Conference, New York City, June 15. Robt. B. Shepard, Secretary, 109 Leonard St., New York.

General Electric Co. (Schenectady), Distributors' Convention, July 23-30, Association Island, N. Y.

International Advertising Association, Denver, Colo., June 26-29. Earle Pearson, Secretary, 383 Madison Ave., New York.

International Assoc. of Municipal Electricians, Salt Lake City, Utah, Aug. 16-19. E. H. Benz, Secretary, West New York, N. J.

International Electrotechnical Commission, Rome, Italy, September. Bellagio (Advisory Committee), C. Le Maistre, Secretary, 28 Victoria St., Westminster, London, S. W., England.

National Electric Light Association, Atlantic City, N. J., June 6-10. Exhibitions, June 4-10. Paul S. Clapp, Secretary, 29 W. 39th St., New York.

National Electric Light Association, Michigan Section, Mackinac Island, Mich., July 5-7. Herbert Silvester, Secretary, Edison Bldg., Ann Arbor, Mich.

National Electric Light Association, New England Division, Hotel Griswold, New London, Conn., Sept. 12-15. Miss O. A. Bursiel, Secretary, 20 Providence St., Boston.

National Electric Light Association, North Central Division, Duluth, Minn., June 24-28. John W. Lapham, Secretary, 351 Loeb Arcade, Minneapolis.

National Electric Light Association, Pacific Coast Division, Casa del Rey Hotel, Santa Cruz, Calif., June 14-17. S. H. Taylor, Secretary, 447 Sutter St., San Francisco.

National Electrical Credit Association, Cleveland, O., June 16-17. Frederick P. Vose, Secretary, 1008 Marquette Bldg., Chicago, Ill.

National Electrical Mfrs. Association, Hot Springs, Va., May 28-June 4. A. E. Waller, Secretary, 30 E. 42nd St., New York.

National Safety Council, Chicago, Sept. 26-30. W. H. Cameron, Secretary, 168 No. Michigan Ave., Chicago.

Northwest Elec. Light & Power Association, Salt Lake City, Utah, June 21-24. W. F. Miller, Secretary, Spokane, Wash.

Ohio State Assoc. of Stationary Engineers, Lima, Ohio (Also Exhibits), June 16-18. T. S. Garrett, Secretary, 2622 Second St., Dayton, Ohio.

Pacific Coast Advertising Association, Portland, Ore., June 19-22. W. P. Strandberg, Secretary, 329 Alder St., Portland, Ore.

Public Utilities Advertising Association, Denver, Colo., June 26-30 (Also exhibits). H. Obermeyeer, Secretary, Consolidated Gas Co., New York City.

Radio Manufacturers' Association, Chicago, June 13-18. H. F. Flanagan, Secretary, 32 W. Randolph St., Chicago.

MACHINE MENACE TO ICE INDUSTRY OVER-ESTIMATED

Educational Advertising by Electrical People a Benefit—Not a Detriment to Wide-Awake Ice Man

Dr. Mary E. Pennington, who directs the Household Refrigeration Bureau of the American Association of Ice Industries, sees great advantages in the activity of electric refrigeration interests. The fear of being wiped out is being eliminated, she says, in a paper presented at the meeting of the Massachusetts Ice Dealers' Association held in Boston, April 8, the following extracts from which are reprinted from *Ice and Refrigeration:*

"What happened as we see it during this past year, 1926, which has made such a tremendous interest over this country from the household viewpoint? Just one thing. The mechanical refrigerator. That is the thing that has spread the gospel of refrigeration for you and far from being a menace to the wide-awake ice man, far from being a detriment to the wide-awake ice man, it is the greatest thing that ever happened to him. It has put into your hands all those education forces with the money of the people sponsoring the industry, sponsoring this new phase into educational circulation, because that is what they have done. That is all yours if you will use it. They have done just as much work for you as for themselves if you will use it, if you will follow up and on, if you will meet them, and that I think is what you have got to do, not only if you are going to hold your own, but if you are going to progress, you certainly must.

"Figures have come to me from over the country where the ice men were really awake, really on the job, and for every single mechanical unit sold in that community they got eight to ten new ice customers. It is a pretty good yardstick, gentlemen, for you to apply to your own business in your own territory. See how many new customers you get for every mechanical unit that goes into your community. Measure up your own wide-awakeness by that standard and see where you come out. As for fussing over the ice industry being wiped out, I think that has all gone by, as many other things have gone by. I don't find, as I meet the ice industry over the country, and I have the pleasure of seeing a good many individuals in the course of a year, that fear any more; that is eliminated. I do find a big interest; I do find a healthy idea that here is real competition and there must be a better industry all the way from better, purer ice to better service in order to compete and to even act."

NOTES ON BUYING AN ELECTRIC REFRIGERATOR

By Dorothy Woodruff Kirk, of Woman's Home Companion

When you go to buy a can opener and are shown one for fifty cents, you immediately ask yourself whether this new type of opener will make the opening of cans easier. If so, you are willing to spend fifty cents instead of ten. But if you cannot convince yourself that it will do something for you that the old kind won't do you might just as well save the extra forty cents.

The greater the amount you are going to spend for any new piece of equipment, the greater must be your justification for spending the money. To most of us the purchase of an electric refrigerator is an event which occurs once in a lifetime, and because it costs more money than we are in the habit of spending for any one piece of household equipment, it must receive careful consideration. It is really a family investment and should be considered from many points of view—but its practical side is naturally of most interest to you as home-maker. To justify its purchase in your own mind, before trying to induce the family to agree with you, discover the answer to this question: What will an electric refrigerator do for me?

What An Electric Will Do

I can guess what most of you will answer. You will say: Yes, it will eliminate the iceman's visits. Or, if you live in an apartment, you know that it will save you from carrying 25 or 50 pounds of ice daily from the dumb-waiter to the refrigerator. It will mean, too, a uniform temperature of less than 50 degrees F. in

(*Continued on Page 12, Column 3*)

CHEESE ENTREES From the Electric Refrigerator

By Selma E. Dahlgren

Cheese is a welcome substitute for meats and is universally used in omelets, souffles and casseroles of macaroni, noodles and rice and as a savory flavoring escolloped dishes of vegetables. Its possibilities as the chief ingredient of cold entrees and of frozen salads to be made in the electric refrigerator are perhaps not so well known.

Cheese mousse, for instance, sharply seasoned, accompanied by a serving of vegetable salad and followed by soft gingerbread for dessert, makes a simple and satisfactory menu for Spring or Summer luncheons.

A small or large amount of grated cheese may be used, according to the taste of the family, combined with whipped cream and seasonings to make the mousse. The following proportions of cheese and cream are right for a mildly-flavored mousse:

Cheese Mousse

½ pint heavy cream.
½ cup grated yellow cheese.
¼ teaspoon salt.
⅛ teaspoon red pepper.
¼ teaspoon worcestershire sauce.
1 teaspoon walnut or tomato catsup

Whip the cream to stiffness, mix the cheese and seasonings and fold into the cream. Turn into one of the freezing pans or into a fancy mold and let freeze for one hour, with the temperature in the freezing compartment at 20 degrees Fahrenheit.

Cut into thick slices and serve on a bed of water cress sprinkled with French dressing. Those who like preserved ginger will find the mousse improved by the addition of one or two tablespoons of that finely minced condiment.

Custard Cheese Salad

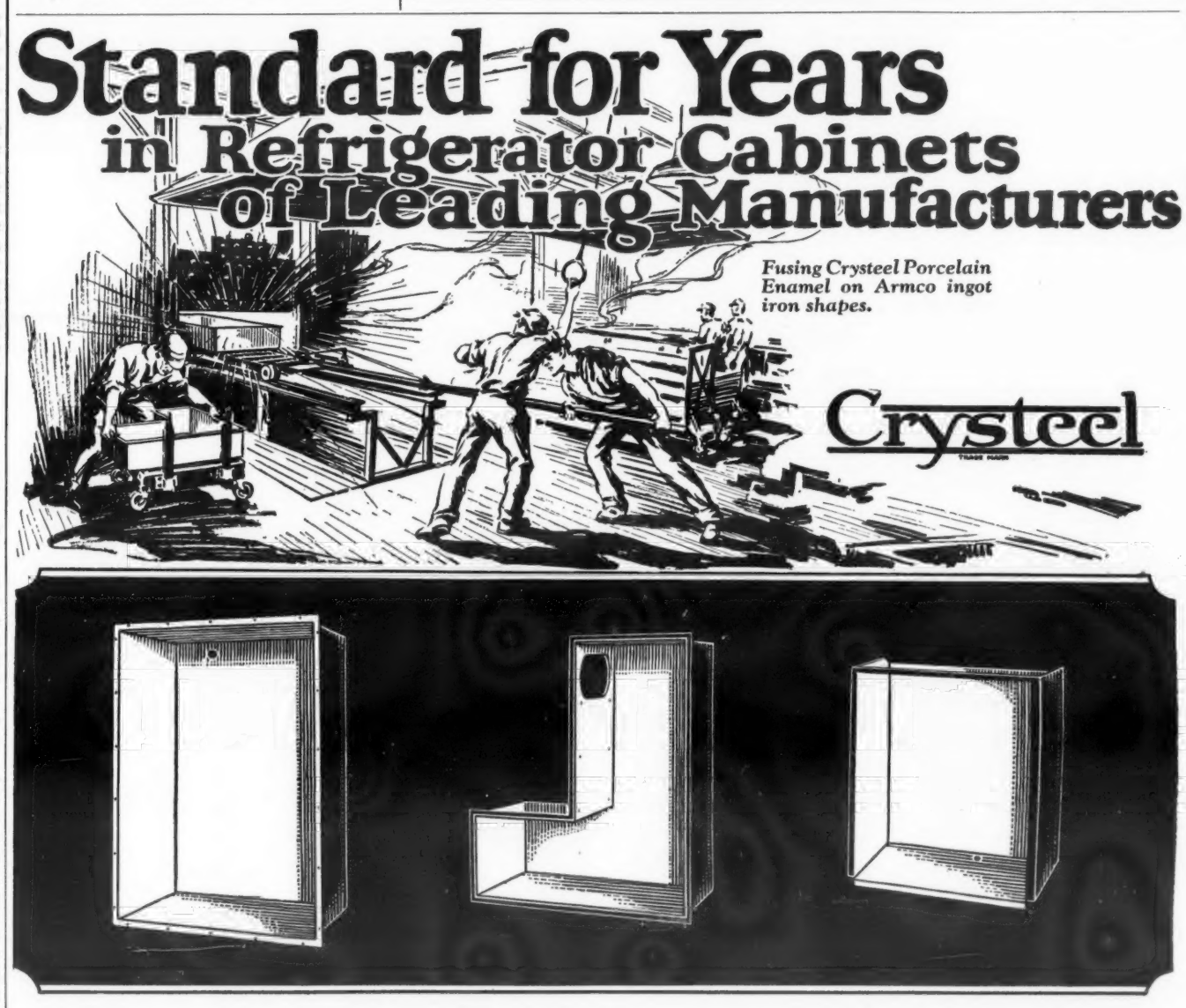
Another cold cheese entree which requires more labor in its preparation but which calls for less expensive ingredients is made according to this recipe:

1¼ cups milk.
2 eggs.
2 teaspoons gelatine.
½ teaspoon salt.
¼ cup grated cheese.
½ teaspoon paprika.
½ teaspoon mustard.
1 tablespoon chopped pimiento.

Pour a little of the milk—about ¼ cup—over the gelatine and let stand. Heat the remainder of the milk, pour over the beaten eggs, add soaked gelatine, salt, paprika, cheese and mustard, and return to the fire, cooking in the top of a double boiler until the mixture is slightly thickened and the gelatine melted. Too long cooking may make the mixture curdle; to avoid this, stir constantly and cook only until the mixture is thick enough to coat a metal spoon—about six or eight minutes. Cool and add the chopped pimientos.

Turn into the refrigerator pan and freeze for two hours with the temperature in this compartment at 20 degrees. If the temperature is higher than this, a longer period of time must be allowed for freezing. Stir the mixture, stirring from the back of the pan toward the front and scraping down the sides thoroughly, every forty minutes to insure a smooth texture.

Cut in thick slices and serve on chilled lettuce leaves dipped in French dressing, along with a chilled raw pear salad or waldorf salad—a complete and satisfying meal on one plate.



Benjamin Refrigerator Linings

The Crysteel Works of the Benjamin Electric Mfg. Co., offers to manufacturers of refrigerators an unsurpassed service which includes:

1 Years of experience in the correct FABRICATION of porcelain enameled parts and particularly in the production of seamless, one-piece, refrigerator linings.

2 Linings, the QUALITY of which is unquestioned and with a FINISH acceptable to the most discriminating buyer of high class merchandise.

3 ALIGNMENT of linings so precise that when linings are properly assembled to frame breakage is reduced to a minimum.

4 Long experience in PACKING porcelain enameled shapes insures safe arrival at refrigerator manufacturer's plant.

5 Railroad facilities permit loading directly on cars, without trucking.

Correspondence is invited regarding our facilities for handling production of any magnitude

Crysteel Works
of BENJAMIN ELECTRIC MFG. CO.
120-128 S. Sangamon St.
CHICAGO

ANHYDROUS SULPHUR
ANALYZED DIOXIDE

Absolute Protection for Refrigeration

ANSUL CHEMICAL COMPANY
MARINETTE, WIS.

Electric Refrigeration in Germany

P AND A

The growing popularity of motor-cooled ice boxes in America may have had its influence on the German inventive mind, or possibly the temporary American occupation of some of Germany's territory has cultivated a desire for cooling drinks that local ice agencies failed to solve. At any rate it is a German inventor who has evolved a gadget that freezes a cylinder of ice that weighs from ten to sixteen pounds—enough to keep the family food fresh or feed the ice cream freezer for the Sunday dessert. The machine, which is cumbersome in appearance alongside the machine made popular here, is said to operate efficiently on one hour of electric current. The photograph shows the cylinder of ice being removed from the machine.—*New York World.*

NOTES ON BUYING AN ELECTRIC REFRIGERATOR

(*Continued from Page 11, Column 2*)

which to store food—a temperature at which even perishable foods do not spoil readily; it will freeze certain kinds of desserts such as rich cream mousses and parfaits, and finally its beauty will add considerably to the appearance of your kitchen.

Yes, it will do all these things. But fully to justify such a sum coming out of your budgeted income, it must do more, and it will—if you let it.

Is a Cooperative Factor

These are some of the additional things it will do: An iceless refrigerator will co-operate with you in the preparation of your regular meals as well as in preparing special dishes for entertaining; it will help you give more variety to your menus; it will make it possible for you to prepare meals in advance so that you may be free to spend the afternoon as you choose; it will earn money by saving money, as well as by saving time and energy.

A Point to Consider Before Buying

Is your present refrigerator in good condition? If it is a well-constructed box, thoroughly insulated and large enough for your needs, you can have an electric cooling unit put into it. Manufacturers of reliable electric refrigerators will make this installation and give you the same service as if you had bought the refrigerator from them complete. But if your old refrigerator was a cheap one and poorly insulated it will not be worth trying to save the price of the "box." T here will be a difference of only about $50.00 (for the smallest size) between the price of the unit and the complete electric refrigerator, and if the unit were installed in a poor box that amount would soon be consumed in the extra current necessary to keep the temperature properly regulated. If you are in doubt, consult a reliable dealer before you make a decision.

General Electric Business Totals Over 77 Million in First Quarter of 1927

Orders received by the General Electric Co., Schenectady, N. Y., for the three months ending March 31, 1927, totaled $77,550,581, according to an announcement by Gerard Swope, president. Net sales billed amount to $72,474,474. Profits available for dividends amount to over eleven million, which is equivalent to $1.53 per share on the outstanding common stock.

"Selling the Idea" to the Public Through Cooperative Newspaper Advertising

Examples of a Series of Advertisements Used by The Electrical League of Cleveland—Part of a Comprehensive Educational Program

The co-operative activities of the Electrical League of Cleveland are largely responsible for Cleveland being the ranking city in the United States in per capita consumption of electricity. Listed below are a few representative advertisements of electric refrigeration used in Cleveland daily newspapers in 1926 by the Electrical League of Cleveland.

THERMOSTATS Automatic Controls for Refrigeration and Oil Burners
SHAFT SEALS—FLOATS
HIGH PRESSURE CUT-OUTS
LIGHT STAMPINGS
Engineering Department at Your Service
GOODNOW & BLAKE MFG. CO.
3840 BEAVER STREET DETROIT, MICH.

REFRIGERATION STAMPINGS
We Specialize in the Design and Manufacture of
ICE CREAM CABINETS
We make them complete or furnish parts separately
Brine Tanks - Cooling Units
Unit Supporting Bases and Perforated Metal Covers
METAL HOUSEHOLD REFRIGERATORS (*Complete*) OR CAN FURNISH OUTSIDE STEEL PANELS, INSIDE LININGS, LOUVERED PANELS, LEGS, ETC., SEPARATELY
We Have a Competent Engineering Staff to Help You - We Solicit Your Inquiries and Specifications
MOTORS METAL MFG. CO. - DETROIT MICHIGAN

TRADE
EXTRA DRY ESOTOO
MARK
THE PUREST
SULPHUR DIOXIDE
Analysis Guaranteed
We have an agent, with our product in stock, near you
Wire us where we can serve you
VIRGINIA SMELTING CO., WEST NORFOLK, VA.
F. A. EUSTIS, *Secretary* 131 STATE ST., BOSTON 2 RECTOR ST., NEW YORK

If You have not sent for this Book on McCord Condensers ~ do it Now!
McCORD *Made*
The latest catalog by McCord illustrating the improved spiral fin type of condenser as supplied by McCord to leading refrigeration makers.
The comparative engineering tests of McCord and plain type tubing are of interest to engineers, designers and distributors. A copy will be mailed on receipt of your request on your office stationery.
McCORD CONDENSERS FOR REFRIGERATION
McCord Radiator & Mfg. Co.
Detroit, Mich.

At the Service of Refrigerator Manufacturers
TESTS Electrical Mechanical Chemical
30 Years Experience
60,000 sq.feet devoted to Laboratory Work
300 Employees
200 at New York
100 scattered from Boston to Oakland, Calif.
Adequate and Comprehensive Equipment
Laboratory organized and stock held by Central Station Companies in all parts of United States
Sole Business Testing
[*Reports confidential Property of Clients*]
KNOW *by Test*
Electrical Testing Laboratories
80th Street and East End Avenue
New York City

Map of the Electric Refrigeration Industry Shown by the "News" at N. E. L. A. Convention

TOPEKA EDISON COMPANY REPORTS SALES GOOD

By Clement White

"The demand for electric refrigerators in this territory is increasing daily," states Harry H. Swathout, manager electric refrigerator sales for the Topeka Edison Company, Topeka, Kansas.

"We have a fine business," continued Mr. Swathout. "Last week we sold eleven electric refrigerators. Our chief problem is to get deliveries. The electric refrigeration idea is spreading rapidly throughout our territory, which includes Topeka and surrounding small towns. However, our chief sales activities are devoted to popularizing electric refrigerators in Topeka.

"Systematic sales methods are of maximum value for boosting the demand. It is our experience that persistent effort will keep business on the up grade. We have four salesmen who devote their time to canvassing our territory seeking prospects and making demonstrations. It pays to thoroughly canvass a territory.

"Newspaper advertising is one of our most effective aids for popularizing electric refrigerators. We spent five per cent. on sales for newspaper publicity. We use illustrated advertisements, and publish copy which awakens public interest in electric refrigerators.

"When advertising and demonstrating electric refrigerators, we emphasize such salient factors as convenience, economy and pride of ownership. One of our most effective arguments is the saving of food insured through possession of a modern electric refrigerator.

"We feature two leading makes of electric refrigerators, and aim to display a well-assorted stock in our show room. We make a hobby of arranging attractive window trims. Show window advertising and distinctive stock display in the show room are effective for luring prospects. Under present-day conditions, it is necessary to arrange an inviting show room, so prospects are encouraged to enter and investigate the merits of the merchandise. I am confident that newspaper advertising, show window publicity and attractive display in the show room are major aids in boosting the sale of electric refrigerators. First secure the attention of prospects, then create the desire to buy by proving the outstanding merits of modern electric refrigerators."

NEW INSTALLATIONS REPORTED

The Frigidaire Corporation of Hartford Conn., will install 15 units in a three-story apartment house being erected by the Hazard Realty Co., on Farmington Ave., West Hartford, Conn.

Electric refrigeration will be installed in a 41-family apartment to be erected by Harry Coonan on Pleasant St., Worcester, Mass. Edward T. Chapin, 304 Main St., Worcester, is the architect.

The new $3,000,000 Georgia Hotel, at Vancouver, B. C., opened in May, is fully equipped with a modern system of electric refrigeration.

The Evergreen Improvement Co., American Bank Bldg., Seattle, Wash., is building a $55,000 apartment house which will have electric refrigeration in each apartment. Emil Guenther and Charles W. Saunders are the architects.

The Electro-Kold Corporation is equipping the following Seattle apartments with centrally-operated systems: Trent apartments, Boren Ave., between Pike and Pine Sts.; Parker apartments, 417 Thirteenth Ave. N.; Hudson Arms apartments, 1111 Boren Ave.; Washington Arms, 11th and Prospect Sts.; Holden apartments, Woodland Ave.; Meyers apartments; R. P. Hemingsen apartments, 15 Aloha St. and 102 Galer St.; Caledonia apartments, 1416 E. 41st St.; and Christensen apartments, on Franklin Ave.

EXPECTS TO SEE ICE AND ELECTRIC REFRIGERATION BUSINESS GROW TOGETHER

Both Types of Load Very Desirable to the Central Station

By W. H. Hodge, Manager, Advertising Department, Byllesby Engineering and Management Corp., Chicago

So far as the future of electric refrigeration is concerned, I have no hesitancy in saying that I believe the growth of electric refrigeration during the next ten years will be very pronounced. There is no doubt but that this load is a very desirable one for the electric light and power companies. At the same time many of these companies supply a considerable amount of electricity for power to artificial ice manufacturing concerns. I am sure that the majority of central station executives are hopeful that the growth of electric refrigeration will not injuriously affect the ice companies. As a matter of fact, the field for electric refrigeration is so great that I do not believe its normal progress will seriously affect the ice manufacturing business; in fact, I expect to see the two grow together.

W. H. Hodge

Electric Refrigeration Popular With Seattle Architects

Architects of Seattle and other parts of the Northwest are responding to the appeal of electric refrigeration and are specifying it for dwellings, apartments and commercial buildings wherever food is kept. Electric refrigeration is having a decided influence on the plans for new structures.

Booklet for Prospects

The article entitled "Causes of Food Spoilage" by C. B. Ryan, Jr., and J. F. Hendrickson which appeared in ELECTRIC REFRIGERATION NEWS recently is now available in booklet form. Quantity prices on request.

Fourteen Distributors Co-operate in St. Louis Exposition Sponsored by Union Electric

ST LOUIS POST-DISPATCH — TUESDAY EVENING, MAY 31, 1927 — ST LOUIS POST-DISPATCH — PAGE 11

Exposition of ELECTRIC REFRIGERATION
by FOURTEEN MANUFACTURERS
Opening Today for Five Days

YOUR CHANCE to learn all there is to learn and see all there is to see of the marvels of electric refrigeration in the home! Beginning today and continuing through Saturday, Union Electric Light and Power Company will display in its beautiful new store at 12th and Locust the electric refrigerators now being sold in St. Louis. The exhibits will be in charge of factory representatives who will tell you all about electric refrigeration in the home. In the show will be all sizes of refrigerators including the new self contained cabinet types whose low price puts electric refrigeration within the reach of the average householder.

The show will open daily from 2:00 PM to 10:00 PM including Saturday. There will be music and frozen dainties will be served. There will be no admission charge.

Sweeping the Country like Wildfire

Among housewives everywhere, there is tremendous interest in electric refrigeration. It is the newest and one of the greatest comforts bestowed by electricity.

There are more than six thousand electric refrigerators in use in St. Louis homes and the factories report that orders are coming in faster than they can be filled.

Union Electric's exposition offers a rare chance to learn the joys of electric refrigeration—constant cold, fresh crisp green vegetables—dainty ice cubes of pure drinking water—crystal cold, sparkling beverages ready all the time—many new and delicious frozen salads and desserts.

Best of all, with an electric refrigerator you are free of all worry about food preservation. Foods of the most perishable kind keep cold and fresh, wholesome and pure. You can buy food in larger quantities at better prices. Prepare the dishes for two or three meals in advance. Double your recipes—serve half today and the rest next week.

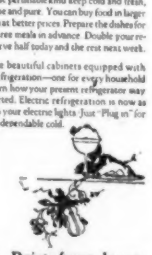
See all the beautiful cabinets equipped with electric refrigeration—one for every household need. Learn how your present refrigerator may be converted. Electric refrigeration is now as reliable as your electric lights. Just "Plug in" for constant, dependable cold.

Now you can see the different makes together, and compare them. Every day this week from 2:00 P. M. to 10:00 P. M. including Saturday.

IN THE SHOW
Fourteen Electric Refrigerators in various sizes and prices:
ABSOPURE
CHAMPION ELECTRO ICER
COPELAND
FRIGIDAIRE
GENERAL ELECTRIC
ICE MAID
IROQUOIS
KELVINATOR
NORGE
POLARIS
SERVEL
SURE COLD
UNIVERSAL COOLER
ZEROZONE

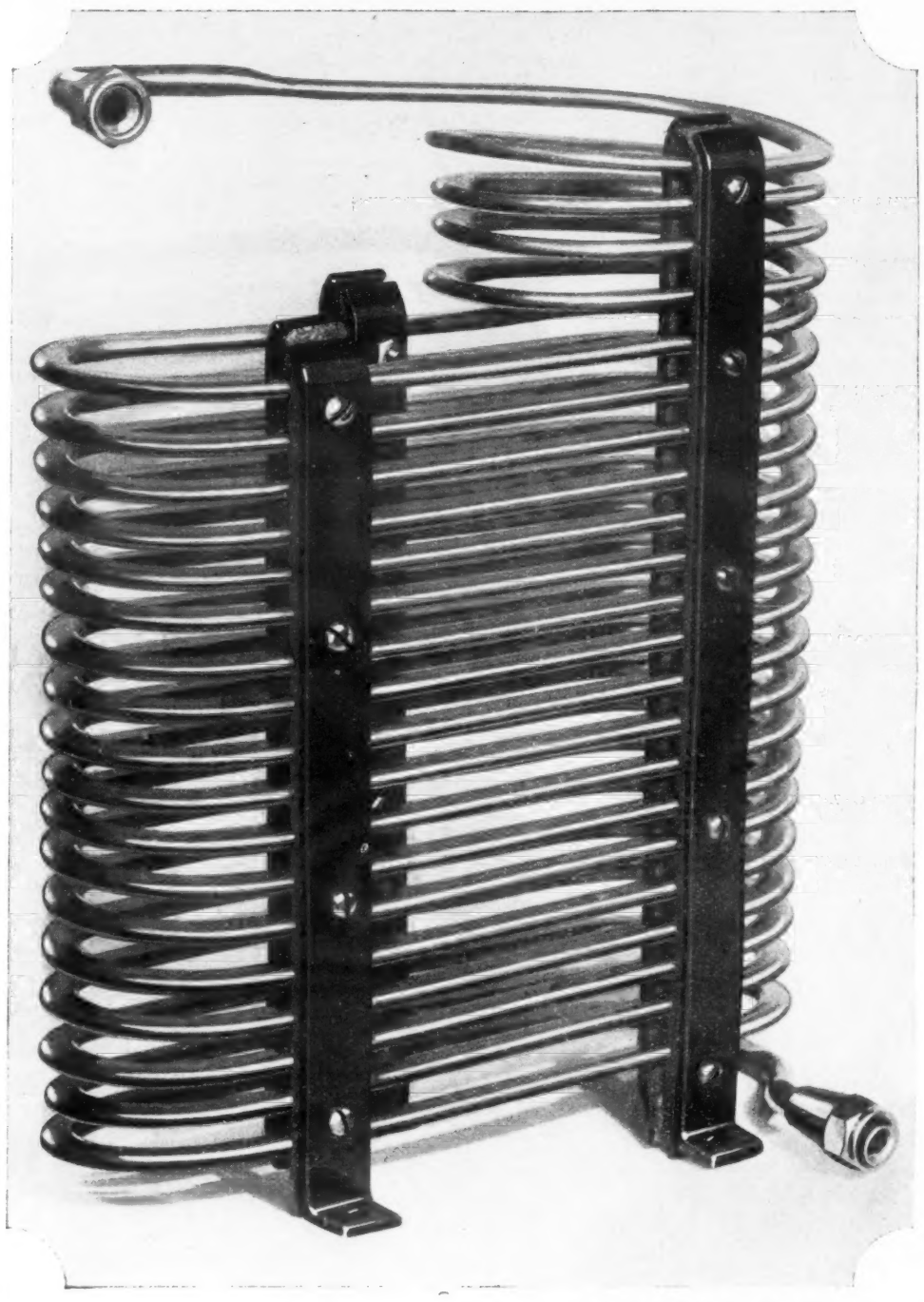
May 31st to June 4th Inclusive
2 P.M. to 10 P.M.
No Admission

The regular service of Union Electric and the sale of electric appliances will not be interrupted during this exposition.



Dainty frozen desserts served free → Music
No admission charged.

UNION ELECTRIC
TWELFTH and LOCUST



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YOU CAN depend upon quick delivery of Seamless Copper Tubing from Wolverine. ¶ Either random lengths or fabricated to your requirements. ¶ Electrical control of bright annealing does away with all possibility of scale.

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PROPOSED OHIO CODE

(*Continued from page 1, column 1*)

Section I—General

1. The requirements of Part IV shall apply to every refrigerating equipment employing fluids which are vaporized and liquefied or compressed in their refrigerating cycle and are intended to provide for the safe installation, operation and inspection of refrigerating systems as well as the storage of refrigerants.

2. The purpose of Part IV is to provide reasonable safety for life, limb, health and property. It is understood that existing Safety Regulations as prescribed for buildings, stairways, exits, belts, moving machinery, steam uses and equipment for same, electric motors and wiring, lighting, uses of oils and volatile substances, and anything not in contact with the refrigerating medium, are covered by their respective rules and regulations in refrigerating plants as fully as if specified in this Code.

Section II—Definitions

1. A Refrigerating Equipment or Refrigerating System is an apparatus, including its source of energy insofar as it affects its safety of operation, for abstracting heat from a body at one temperature and transferring it to another at a higher temperature.

2. The capacity of a refrigerating equipment is its rating in tons of refrigeration per twenty-four (24) hours determined as follows:

a. A standard of refrigeration is 288,000 B. T. U.

b. The standard commercial ton of refrigeration is at the rate of 200 B. T. U. per minute.

c. The standard rating of a refrigerating machine, using liquefiable vapor, is the number of standard commercial tons of refrigeration it performs, under adopted refrigerant pressures.

3. Adopted Refrigerant Pressures:

a. The inlet pressure is that which corresponds to a saturation temperature of 5 degrees Fahr. (15 degrees C.).

b. The outlet pressure is that which corresponds to a saturation temperature of 86 degrees Fahr. (30 degrees C.).

c. These pressures are measured outside and within 10 ft. of the pressure imposing element, measured along the inlet and outlet pipes respectively.

4. A Pressure Imposing Element is that part of the refrigerating system which draws the refrigerant from the low pressure and discharges it into the high pressure side of the system, such as a compressor or absorber and generator.

3. A Refrigerating Machinery Room is one in which is located any pressure imposing element, condenser, receiver or shell type apparatus. Rooms which contain only pipes for conveying the refrigerant are not considered refrigerating machinery rooms.

6. a. A Pressure Relief Device is a device that will automatically relieve a pressure in excess of a predetermined maximum.

b. An Automatic By-pass is a device for automatically relieving an excess pressure on the discharge side of the pressure imposing element to the suction side of that element. This device to be of such a design as to operate irrespective of the outlet pressure.

c. A Pressure Limiting Device is one that acts directly responsive to pressure to stop the action of the pressure imposing element.

d. A Rupture Member is a devcie which will rupture at a predetermined pressure.

e. A Fusible Plug is a device which will, by the fusing or softening of a suitable material, relieve the pressure when the device has reached a predetermined temperature.

7. A Vessel is any part of a refrigerating system containing the refrigerant, except the pipe connections.

8. A Liquid Receiver is a vessel permanently connected to a refrigerating system for the storage of liquid refrigerant pending its employment for the production of refrigeration in the evaporator.

9. A Container is a cylinder or drum for the shipment of a refrigerant.

10. The term Main Suction Stop and Main Discharge Stop designate the manually operated shut-off valves located in the suction and discharge lines, respectively, adjacent to the pressure imposing element.

Section III—General Requirements for Plants Containing Over Twenty-five (25) Pounds Refrigerant

1. a. Pressure Relief and Limiting Devices shall be made of material suitable for the refrigerant employed, and where practicable, their working parts shall be non-corrodable.

b. If Rupture Member Devices are used, they shall be ruptured by direct pressure and made of material non-corrodable by the refrigerant and shall be so designed as to prevent their ruptured parts entering the discharge pipe connections. The ruptural pressure shall be legibly marked on the rupturing member or proper attachment thereof. A combination device may be used, same to consist of a rupture member and pressure relief valve so designed that pressure is exerted against the relief valve only after the rupture member has functioned.

c. There shall be no valve between the pressure relief devices and the vessel which they protect or between automatic by-pass devices and the main suction line. There shall be no valve between any rupture member or fusible plug or other pressure limiting means and the part of the equipment protected thereby, except that in the case of a liquid receiver shell type brine cooler and shell type condenser, a locked valve may be installed, this valve to be sealed open.

2. All Piping and Liquid Receivers containing the refrigerant shall be so installed as to be least liable to damage.

3. Fusion Welding in this Code shall be understood to apply to the oxyacetylene process or the electric arc process, the work being done by the usual hand welding method.

4. Every part of the refrigerating system, except control mechanism and gauges, shall be designed for working pressures as follows: For the more common refrigerants in accordance with the table herewith, see paragraph 6; for any refrigerant not shown in the table the working pressure for the low side shall be the adopted outlet refrigerant pressure, and for the high side one-third more than the adopted outlet refrigerant pressure. The factor of safety in every case shall be not less than 5.

For refrigerants not shown in table, the adopted outlet refrigerant pressure as well as the adaptability of the refrigerant shall be passed upon by the A. E. S. C. on Refrigeration Safety Code. In the absence of this authority for a refrigerant the use of such refrigerant is prohibited.

5. All Automatic By-passes or Pressure Relief Devices shall be designed, set, marked and sealed by the manufacturer so as to prevent pressures in excess of that specified in the table, paragraph 6 herewith; and for refrigerants not shown in the table, the pressure shall be taken as one-fourth more than the working pressure for the high side as specified in paragraph 4 above. The setting for pressure relief devices on the low pressure side to be the low working pressure.

6. Gauge Pressure Table:

Refrigerant	*Working Pressures*		*Maximum Pressures for Set of Safety Relief Devices on the High Side.*
	Low	*High*	
Ammonia	150	200	250
Carbon Dioxide...	1000	1300	1600
Sulphur Dioxide..	50	75	90
Ethyl Chloride....	15	20	25
Methyl Chloride..	80	110	130
Ethane, Hydro Carbon..	650	900	1100
Propane, Hydro Carbon..	150	200	250
Isobutane, Hydro Carbon..	50	70	90
Butane, Hydro Carbon..	30	40	50

7. Every Refrigerating Equipment shall be provided with one or more pressure relief devices of proper size, connected between each main discharge stop valve and the pressure imposing element; also on each liquid receiver, shell type condenser, and shell type evaporator which can be isolated; located at the top to relieve the pressure, discharging during the period of excess pressure either to the atmosphere or into the low pressure side on the inlet side of the main suction stop valve, provided that the low pressure side is protected by a pressure relief device discharging to the atmosphere. Except where carbon dioxide is the refrigerant, the discharge need not be carried to the outside atmosphere and a rupture member device may be used.

8. The refrigerant when discharged into the atmosphere shall be conducted by continuous piping to an outlet turned upward and equipped with a diffuser, designed to mix the refrigerant with the air. The piping from the pressure relief devices to the point of final discharge, including the diffuser, shall be such as not to impose a resistance head of more than ten (10) pounds per sq. in. on the discharge side of the device. Such piping shall in no case have connection with pipe used for any other purpose, or provided with any plug, or other shut off means, nor so located that gases discharged might become ignited. Outlets from diffusers shall be at least ten (10) feet above the roof of any building within fifty (50) feet.

9. There shall be a service switch or remote control switch controlling all the electrical equipment in the machinery room, one control of which shall be located outside the machinery room, where it can be quickly and safely reached and operated in case of an emergency.

10. Containers shall not be connected to the refrigeratng system when not actually charging. Containers before charging should be kept in a cool place.

Section IV—Classes and Class Requirements

1. The class to which an installation belongs is determined by the combined weights of refrigerant contained in its condenser, receiver, all evaporators, and all other portions of the system connected to a common pressure imposing element.

Class A is a refrigerating system of 30 tons refrigerating capacity or over, or containing one thousand (1000) pounds of refrigerant or over.

Class B is a refrigerating system, containg less than one thousand (1000) pounds and over twenty-five (25) pounds of refrigerant.

Class C is a refrigerating system containing twenty-five (25) pounds of refrigerant or less.

b. Helmets or Masks shall be kept in a place easily accessible from outside the machinery room.

3. a. Every Equipment shall be provided with pressure gauges; one for indicating the pressure in the condenser or high pressure side and one for indicating the pressure in the evaporator or low pressure side.

b. Refrigerant Level Gauge Glasses, other than bull's-eye or glass disc type, where used, shall have automatic shut-off valves.

c. For Refrigerant Level Gauges of the bull's-eye or disc type, the minimum thickness of the glass shall be in accordance with the following formula: $t = r \frac{P}{2000}$ where t equals thickness in inches: r equals the unsupported radius of glass in inches: p equals pressure in pounds per square inch. For other than circular form one-half the minor axis may be taken for the radius factor.

4. Every Equipment, except that which cannot be subjected to a pressure in excess of the maximum allowable pressure by the action of the pressure imposing element, shall have an automatic pressure limiting device, acting directly responsive to pressure, to stop the action of the pressure imposing element at a pressure ten (10) per cent under that at which the pressure relief devices are set.

5. Every Equipment, except where the Impeller Type of Compressor is used, shall have a check valve placed in the discharge line between each pressure imposing element and condenser, and if an oil trap is used on the discharge line, before discharge line enters the oil trap.

6. a. Each Machinery Room shall have two separate and distinct means of egress located at opposite ends of the room, one of which shall lead direct to the open air or to a room or hall from which gases from machinery room can be excluded by close fitting self-closing doors.

b. Vertical and horizontal openings that permit the passage of gases to other parts of the building which are not a part of the machinery room, shall be sealed or provided with close fitting self-closing doors.

c. Each Machinery Room shall be provided with means for adequate ventilation to the open air, either direct or by means of a suitable duct or ducts. Where a mechanical system of ventilation is employed, control of such system shall be located outside the machinery room, where it can be quickly and safely reached and the system started in case of emergency.

7. No Machinery Room, except where carbon dioxide is the refrigerant, shall have in it any open flame, arc light or direct opening into the boiler room; but an internal combustion engine may be located therein, which may be started in the usual manner. There shall be a fire wall between such room and the boiler room, equipped with self-closing door.

8. Every equipment shall be provided with a pressure relief device on the low pressure side, discharging to the atmosphere as provided for in Section III, paragraph 8. This relief device to be located on the main suction line between evaporator and main suction stop valve.

9. The minimum nominal pipe sizes for relief devices are as follows:

Class A—Requirements

2. a. Where Ammonia or other Noxious Refrigerants are used at least two helmets or masks, tested in accordance with the requirements of the United States Bureau of Mines for such gas, shall be kept in operative condition and available for immediate use by responsible attendants, who shall be trained in their use.

For Carbon Dioxide

For Equipment Over	*Use at Least*
30 to 175 tons	One ½"
175 to 450 tons	One ¾"
450 to 900 tons	One 1"

For All Other Refrigerants

For Equipment Over	*Use at Least*
30 to 60 tons	One ¾"
60 to 100 tons	One 1"
100 to 175 tons	One 1¼"
175 to 250 tons	One 1½"
250 to 450 tons	One 2"
450 to 900 tons	Two 2"

10. Systems using Hydro Carbon refrigerants are prohibited.

11. Operating Precautions:

a. The compressor should be protected against receiving slugs of liquid by proper arrangement of trap or accumulator with a suitable arrangement for the return of the entrapped refrigerant to the working system on suction line.

b. Repair to refrigerant lines or apparatus should not be made while they are under pressure. Tightening of bolts or flanged joints should be done under reduced pressure at least.

c. In testing systems with air pressure care should be taken to prevent the temperature at any point rising above one hundred and thirty (130) degrees Fahr. (hand warm).

Class B—Requirements

1. Helmets or Masks, same as class A, except only one required.

2. Gauges and Gauge Glasses, same as class A.

3. Limiting Device, same as class A.

4. Check Valve, same as class A.

5. Exits, Ventilation, same as class A.

6. Lights, same as class A.

7. Low Pressure Side Relief, same as class A. (Exception see 9.)

Specifications Tests and Adjustments

Specialist in
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8. Relief Devices may be ½" in all cases.

9. Modifications for Class B Equipments in which the amount of refrigerant does not exceed 125 pounds, and where it is absolutely impracticable to carry out the provisions of this Code for discharge of Relief Devices to the atmosphere as provided for in Section III, 7 and 8:

a. Where ammonia is the refrigerant the discharge may be into a suitable body of water. When the ammonia is discharged into a tank of water, the tank shall not be used for any other purpose. At least one (1) gallon of fresh water for every pound of ammonia contained in the equipment shall automatically be maintained in the tank. Provision shall be made to prevent the water from freezing without the use of salt or other chemicals.

The tank shall be substantially constructed with a hinged cover, or, if it is of the enclosed type, it shall have both a water inlet and a vent hole at the top. No horizonal dimensions of the tank shall be greater than one-half (½) the height. The discharge pipe from the pressure relief devices shall be so attached as to discharge the refrigerant at the center of the bottom and that portion of the pipe within the tank shall be of lead with a one-sixteenth (1/16) inch vent hole above the water level. The tank shall be securely supported and firmly braced. There shall be no opening in the tank below the water level, and the water level shall be at least six (6) inches below the top of tank.

b. For other refrigerants, (except carbon dioxide for which see Section III-7), the discharge may be into a suitable body of non-inflammable absorbent, providing that this absorbent and method of use has first been passed upon by the A. E. S. C. or the Industrial Commission of Ohio.

10. Special Requirements where Hydro Carbon Systems are used:

a. Shall be installed only in fireproof buildings of not more than one story in height, and shall be located on the grade floor, which shall be of unpierced fireproof construction. The machinery room shall be cut off from the rest of the building by unpierced fireproof walls. A direct exit to the open air shall be provided. All the refrigerant shall be confined in machinery room.

b. In Congested Districts they are prohibited.

c. "No smoking" regulations shall be rigidly enforced.

11. Operation Precautions, same as for class A.

Class C—Requirements

1. General Requirements. Same as specified in Section III, paragraphs 1, 2, 3, 4, 5, 6.

2. Automatic Pressure Limiting Device shall be used as specified in Section III, paragraph 1, and Section IV, paragraph 4.

3. Every Equipment shall have a Pressure Relief Device for emergency pressure relief in case of fire, this to be a fusible plug so constructed as to relieve the pressure at 200 degrees Fahr. They shall be so located as not to be affected by superheat produced in the refrigerant by compression or other operating causes.

STOPS FOOD SPOILAGE ON DINING CARS

Frigidaire equipment placed in dining cars of the Chicago, Milwaukee & St. Paul Railway has practically eliminated food spoilage, according to L. M. Jones, superintendent of the dining car service. Electricity for the units is taken off the batteries with float on the lighting circuit of the train. The cabinets are placed in close proximity to the cooking ranges on account of the necessity for space economy.

Will Combine Electric Refrigeration and Oil Heating

The Polley Refrigerating Corporation, 27 Monroe St., Norwalk, Conn., has been organized to conduct a refrigerating and oil heating equipment business. The incorporators are Samuel C. Polley, John L. Irving, James F. Powell and Harry Getner, of Norwalk, and Charles C. Ganzer, of Bridgeport, Conn.

To learn all about iceless refrigeration, try to convince the little woman that she will be quite as beautiful with nothing new for Easter.—*Detroit News.*

Announcement

BELIEVING that the building and designing of refrigerator cabinets is a separate and distinct industry from that of refrigerating machines, and requires an engineering and designing personnel especially trained in cabinet manufacture, the manufacturers of

OREOLE REFRIGERATION

announce that their activities hereafter will be centered on the design, construction and sale of

OREOLE

Display Cases and Refrigerators for Commercial Use and

REOL

Lifetime Refrigerators for the Home

As in the past, the services of our designing and engineering departments are at the command of the commercial refrigeration user, and are available to other manufacturers for the coordination of OREOLE Cabinets and Display Cases, and REOL Lifetime Refrigerators, with their refrigeration machines.

We continue to emphasize our belief that

"The Cabinet is the Heart of the Installation"

and we urge all manufacturers, distributors, dealers and users of commercial and domestic refrigeration to pay particular heed to the design and construction of the containers which their machines are called upon to operate.

When standard, well-designed and constructed machines are operated in conjunction with OREOLE Cabinets and Cases, then we are proud to term such installations

OREOLE Refrigeration

Advertising of OREOLE REFRIGERATION is appearing in national trade papers in the retail food, restaurant, hotel, architectural and institutional field, and is arousing widespread interest. Distributing and selling outlets interested in handling a commercial cabinet line may address our Baltimore office, or call upon L. M. Hess, Ambassador Hotel, Atlantic City, during the N. E. L. A. Convention.

OTTENHEIMER BROS., Inc.

BALTIMORE, MD.

Trade Names "Mazda" and "Nizer" Based On Same Advertising Psychology

In the following article prepared by the Society for Electrical Development, the derivation of the word "Mazda" is explained. The word "Nizer" has similar characteristics. Knowing that J. Robert Crouse, B. G. Tremaine and others responsible for the development of the Nizer electric ice cream cabinet business, were also identified with the National Lamp Works in the early days, inquiry was made to confirm the conviction that the words must have been designed with a common purpose.

Traces Word "Mazda" Back to Its Source

Whence came that queer name Mazda with which we are all so familiar? It recalls a god of the ancient Persians, but how came it to be applied to so modern an invention as an electric lamp? In a recent number of *American Speech*, Dr. P. B. McDonald, of the College of Engineering, New York University, uncovers the man responsible for the word that has crept into every home.

It was suggested, it appears, by Frederick P. Fish, a Boston lawyer, at one time president of the American Telephone Company. Mr. Fish explains his christening thus: "I had long been of the opinion that an ideal trade name might well be made up of two syllables, both long. For example, I had always regarded Kodak as a most effective name.

"While a trade-named need not be descriptive, it is advantageous to have it in some way remotely reflect some of the characteristics of the article to which it is applied.

"In this case it seemed to me that a suggestion of the light-giving property of the lamp might well be indirectly involved. I naturally thought of Apollo, Jupiter, and Jove, but these names were relatively commonplace, and none of them had the two long syllables that I thought desirable.

"But I knew, of course, of the Zoroastrian god of the ancient Persians, who stood for the firmament with its light-giving characteristics, and whose name was Ahura Mazda. It seemed to me that Mazda, with its two long syllables and its suggestion of the light-giving firmament, might prove an attractive trade-name for the new tungsten incandescent lamps. A long list of other words was suggested, some of them based upon proper names, some more or less artificial in character. The name Mazda was adopted by the manufacturers."

History of the "Nizer"

The Nizer Electric Ice Cream Cabinet originated in the efforts of the Arctic Ice Cream Company, Detroit, to reduce its distribution costs by the adoption of mechanical refrigeration to replace the old ice and salt cabinet. Although mechanically refrigerated units of large capacity had been in use for half a century, it was soon discovered that no small units had been perfected suitable for their purpose.

Early in 1919 the Arctic brought together a staff of specialized engineers to develop a suitable unit for their company's own use, and both practical and technical ice cream men were drawn from the Arctic staff. Nizer laboratories supplied electrical, refrigerating and chemical engineers of wide experience through the initiative of J. Robert Crouse, and development was immediately commenced.

It is noteworthy that the group in the control of the development was, at an earlier date, intimately associated in the perfection of the Mazda lamp, and the affinity of the word "Nizer" to "Mazda" is thus explained, as the word Nizer, like Mazda, is a "made-up" word with the letter "z" dominating. Advertising students will readily recognize the psychology of the word.

During 1920 John R. Replogle, electrical and mechanical refrigerating engineer, and Frank L. Wurl, production engineer and factory manager, joined the staff, which was also working, and as a result the first standardized Nizer cabinet was finished and proven in the laboratory in the early part of 1921.

Many of the devices which had been used in refrigerating work were tested and discarded. It became necessary to solve many original problems—for instance, the choice of a refrigerant suited to small unit use—the building of a universal type electric motor—the construction of a practical, compact cabinet—the designing of a new type of evaporator—creation of positive automatic controls. In recognition of the progress made during this period of experimentation and later, many basic United States and foreign patents were granted.

By the spring of 1921 a perfected form of the refrigerating machine, without cabinet, had already been in successful operation for months, and several of these were installed in the latest form of cabinet and subjected to severe tests.

The first Nizer—the pioneer in the field and the only successful device of its kind—was installed in the Worden Pharmacy, Detroit, Michigan, on January 16, 1922.

A large ice cream manufacturer installed several hundred machines and tested them thoroughly throughout 1922, before it was considered time to commence the manufacturing of Nizers for other ice cream manufacturers. Late in 1922, Nizer Corporation was incorporated for this purpose, and started manufacturing in Detroit.

The first ice cream companies to make use of the new Nizer form of ice cream refrigerator were the Arctic Ice Cream Company, Detroit; the Bob White Ice Cream Company, Flint; Telling-Belle Vernon Co., Cleveland; Harding Cream Company, Omaha; M. B. Ise Kream Co., Dallas, Tex.

In the spring of 1923 the Nizer Corporation purchased a plant in Detroit and began production on a large scale. Until that time the ice cream cabinet had been its sole product, but it was soon found that the commercial unit used in the ice cream cabinet was adaptable to many other purposes. Application of this unit to the refrigeration needs of several other lines of business was undertaken with great success.

In 1924 a larger unit of the same general design as the early one was added to the line and the field of activity proportionately expanded. In this year, arrangements were concluded with Harry A. Sieck (who for four years held position of chief engineer, Dairymen's League) to take direction of Nizer sales and early in 1925 he assumed control.

The latest unit to be added to the line is the Nizer Electric Dairy Cooler, which was placed on exhibit at the National Dairy Industries Convention, Detroit, in October, 1926. This cooler has been designed to meet the requirements of a 16-can dairy, and has a total storage capacity of eight 10-gallon cans.

Late in 1925 the Nizer Corporation and the Kelvinator Corporation amalgamated under the name of the *Electric Refrigeration Corporation*. The new company began operations January 1, 1926. A. H. Goss, formerly president of the Kelvinator Corporation, became president of the Electric Refrigeration Corporation, and H. A. Tremaine, of the Nizer Corporation, became chairman of the board.

March 1, 1926, A. W. Beresford was appointed executive vice-president of the Nizer Corporation, Mr. Beresford is very well known in the electrical industry. He was for several years vice-president and general manager of the Cutler-Hammer Manufacturing Co., of Milwaukee. He is past president of the American Institute of Electrical Engineers, also of the Electrical Manufacturers' Club and of the Associated Manufacturers of Electrical Supplies. He is now vice-president of the American Engineering Council.

All the assets of the Nizer Corporation were acquired by the new E. R. C. organization and Nizer now operates as one of its divisions.

TRADING IN OLD BOX LIKE OFFERING HORSE AND BUGGY ON AN AUTOMOBILE

"We would like to add our bit if it will be of any help to the 'Boys.' Regarding this trade-in matter on old boxes: we attempt to point out to our customers, and have done so with much success, that to trade-in an old ice box for the modern electric refrigerator is like trying to get a trade-in value for a horse and buggy on a Cadillac. It simply isn't done. The pointedness of the analogy comes home so vividly to the prospective purchaser that the salesman readily becomes more expansive about his product, in so much as he is not selling a new kind of ice box so much as he is selling an entirely new and different form of food preservation in the home.

"May we add on passing that we are heartily in accord with the article in the issue of May 11th, headed 'Secrecy Gone Out of Style.' In conjunction with this we offer a successful approach used by our boys: They offer the lady of the house, whom they have never seen before, a block of ice that will not melt for twenty years known as a brine tank.

"Hope this helps."—GORDON GROSS, Domestic Distributing Corporation, Brooklyn, N. Y.

Subscription Order

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Gentlemen:

Please enter my subscription to ELECTRIC REFRIGERATION NEWS, the Business Newspaper of the Electric Refrigeration Industry.

United States: ☐ $1.00 per year ☐ Three years for $2.00.

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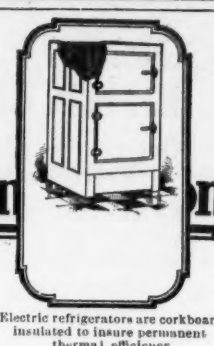

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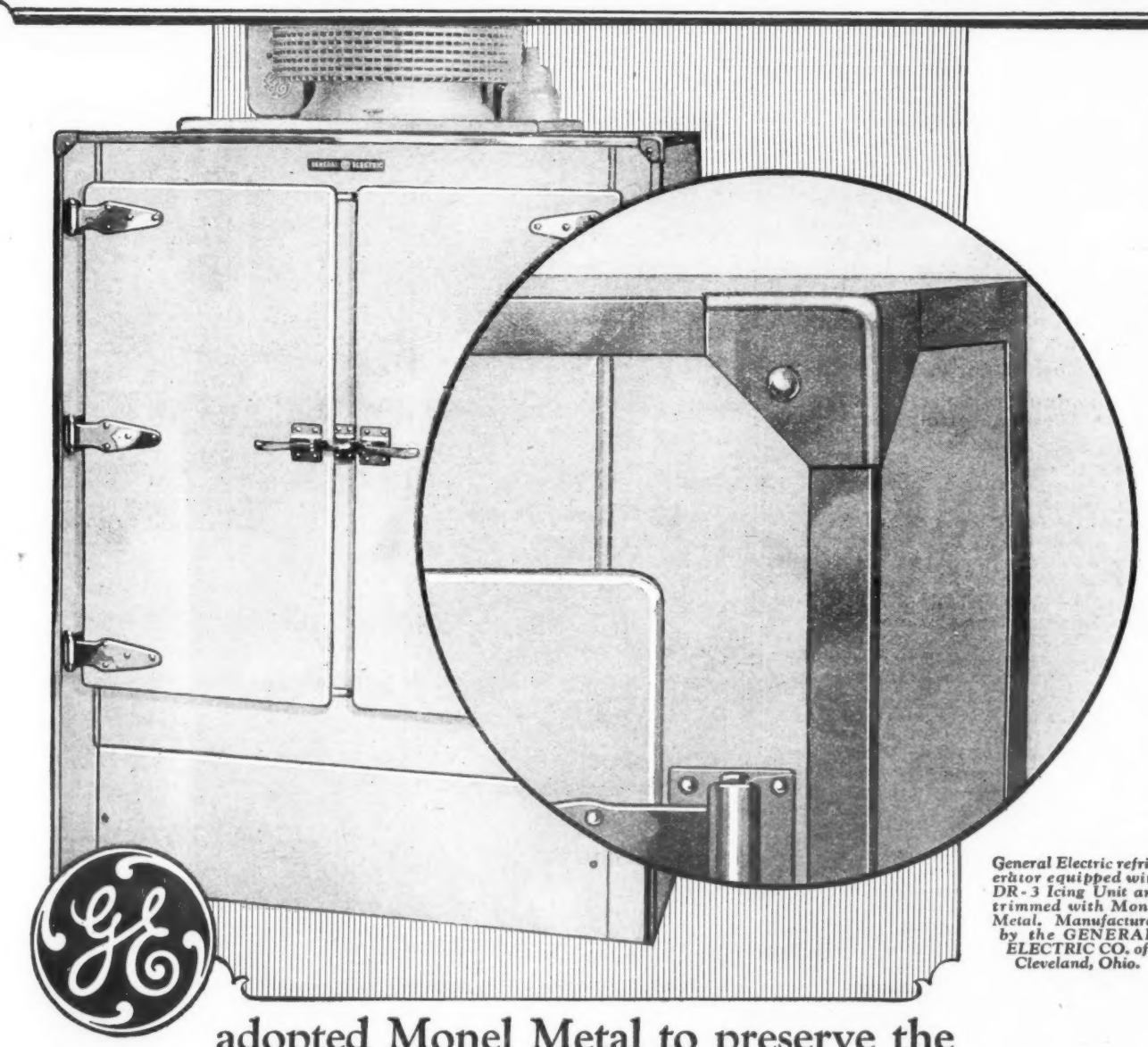

General Electric refrigerator equipped with DR-3 Icing Unit and trimmed with Monel Metal. Manufactured by the GENERAL ELECTRIC CO. of Cleveland, Ohio.

adopted Monel Metal to preserve the "good looks" of its refrigerator trim

Leading makes of refrigerators have "set the pace" for the industry by using Monel Metal trim. Monel Metal is now THE standard trim material because:

1. It has a permanently bright, attractive surface—it dresses up the refrigerator.
2. Its corrosion-resistance makes it easy to clean and keep clean.
3. It is inherently rugged—hard to dent or scratch.
4. It has no coating to wear off.
5. Its permanent ornamental value helps sell the refrigerator.
6. Last, but not least! It is available in ample quantities in desired dimensions, shapes and forms.

IMPORTANT: Refrigerator buyers are quick to recognize a quality refrigerator by its Monel Metal trim.

Monel Metal is a technically controlled Nickel-Copper alloy of high nickel content. It is mined, smelted, refined, rolled and marketed solely by The International Nickel Company. The name "Monel Metal" is a registered trade mark.

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THE INTERNATIONAL NICKEL COMPANY (INC.), 67 WALL STREET, NEW YORK CITY

COLD PLATE DINNERS

Out of the Electric Refrigerator

By Selma E. Dahlgren

One-plate meals like one-piece dresses have come to be an absolute necessity with most women for certain occasions. If the meal is to be centered around an entree that dish, of course, must be very substantial, no matter what the weather or temperature. Don't make the mistake of thinking that because the day is hot it is unnecessary to provide plenty of good nourishing food for the family.

The summer entree, although it must be nourishing and filling, should have a "party-fied" appearance, and all its various accoutrements such as wafers, sandwiches, garnishes and relishes should be planned with this point in mind.

This Dish Saves Money

A mousse of flaked fish, meat, fowl, of grated cheese or of cottage cheese is at once a company dish and a nourishing food and, since it frequently can be made of the left-overs of some previous meal, it may also be rated as one of life's little economies. It is a good plan to provide for unexpected guests and other emergencies by keeping in the refrigerator at least one can each of minced ham, chicken, flaked fish or crab meat and a sealed packet of cheese. The thoroughly chilled food can be much more quickly frozen into a solid mousse than if warm ingredients are used.

Simple to Prepare

It is a simple matter to make a large variety of entree-mousses in the ice tray of your electric refrigerator. It is much less trouble, for instance, than making an omelet, for all you have to do is to whip the cream fold in the meat or fish or cheese and add whatever seasonings you like. Turn the mixture into one of the trays and let it freeze for from two to three hours, the length of time depending upon the temperature in your own refrigerator.

If the mousse becomes frozen too hard for serving, you can soften it to the right texture without running the risk of having it melt around the edges by removing the tray from the freezing compartment of the refrigerator and placing it on one of the shelves in the food compartment.

Here Are the Recipes

The following recipes are for mousses to be frozen in an electric refrigerator with the temperature in the ice-tray chamber between 18 and 20 degrees. If the temperature in your box is higher than that, it will be necessary to allow a little longer time for freezing the mousse and if the temperature should be lower, less time for freezing will be required than is indicated in these directions.

FOUNDATION RECIPE FOR CHICKEN MOUSSE

1 cup milk or stock
3 egg yolks, beaten
1 tablespoon gelatine
¼ cup water
1¼ cups minced cooked chicken
1 teaspoon salt
¼ teaspoon pepper
1 cup cream whipped

Scald the milk or stock, pour slowly onto beaten egg yolks, stirring constantly. Cook in double boiler until mixture coats a metal spoon—from six to eight minutes. Soak gelatine in cold water for a few minutes and add to the custard when taken from the fire. Stir until gelatine is dissolved and pour over minced chicken mixed with salt and pepper. Let cool for about fifteen minutes, and, when the mixture begins to stiffen, fold in the whipped cream. Pour into refrigerator pan or a fancy mold that has first been dipped in cold water, and let freeze for one and one-half hours.

A half cupful or so of chopped pecans or almonds added to the mousse gives a richer and better flavor, and, of course, chopped mushrooms, truffles and olives should always be used in a chicken mixture whenever possible. The olives or mushrooms may be cut in slender strips and used to decorate the bottom of the mold if it is desirable to turn out the mousse on a large plate and serve it at the table.

VARIATIONS FOR MEAT AND FISH MOUSSES

Fish mousse is made like chicken mousse but is improved with sharper seasonings—two or three dashes of Worcestershire sauce, some chopped pickle and capers or grated raw cucumbers. Thinly sliced cucumbers may be used effectively to line the mold in which the mousse is frozen.

All meats—especially veal—are good in frozen mousses. Canned tomato soup or clear tomato juice from the canning kettle, may well be substituted for the milk or stock in the standard recipe. Minced green pepper or grated carrot add a fresh, garden-like touch to the salad/chutney and chili sauce should be added generously in preparing the mixture.

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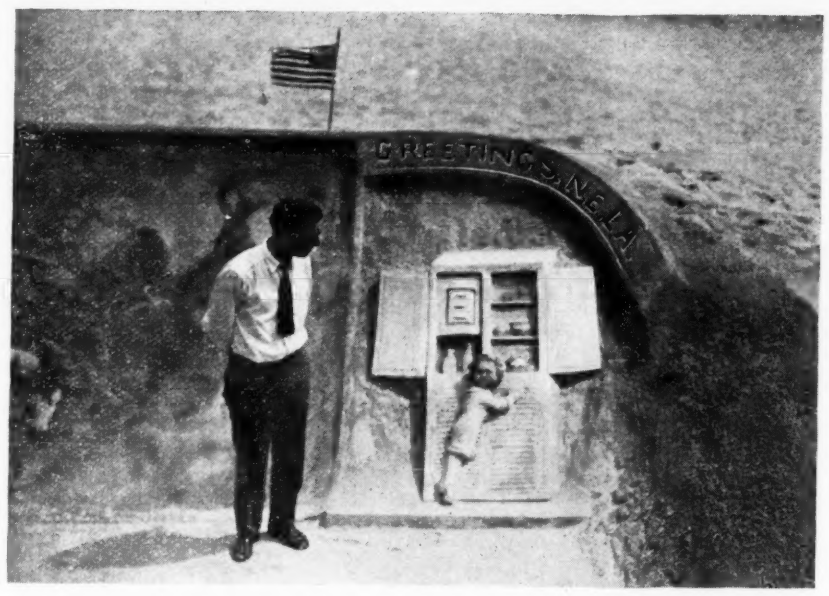
(See coupon on page 15)

Sand Sculptor Moulds Electric Refrigerator on the Beach at Atlantic City



At the request of the "Electric Refrigeration News" representative the artist posed beside his design in the sand beside the pier.

NEW BOOKLETS AND LEAFLETS

McCord

The McCord Radiator and Mfg. Co., Detroit, Mich., sends a 16 page booklet entitled, "McCord Condensers for Refrigeration." The booklet is well illustrated and shows the manufacture and application of the "Spiral Fin" condensers marketed by this company.

G. E. Motors

The small motor division of the General Electric Company has recently issued a 20-page manual, letter size, entitled "The Mechanical Installation of Electric Motors and Control." The information, while intended for dealers, should be of interest to any user of motors.

Vacuum Oil Co.

The Vacuum Oil Co., New York City, has issued a 64-page booklet entitled "Refrigeration Plant Lubrication" (industrial series), containing data on characteristics of electric refrigeration machines. The booklet is well illustrated in four colors.

Polaraire

The Polaraire Electric Refrigerator Co., 1610 North Street, Philadelphia, Pa., has recently issued a large folder entitled "Our Bond a Cold Fact," illustrating the different models and listing the specifications of each model.

Ice-O-Lator

Two small leaflets, "The Silent Servant for Your Home," and "Electric Refrigeration? Yes, but how different the Ice-O-Lator way!" have been received. Both leaflets are descriptive of the operation of the Ice-O-Lator machine.

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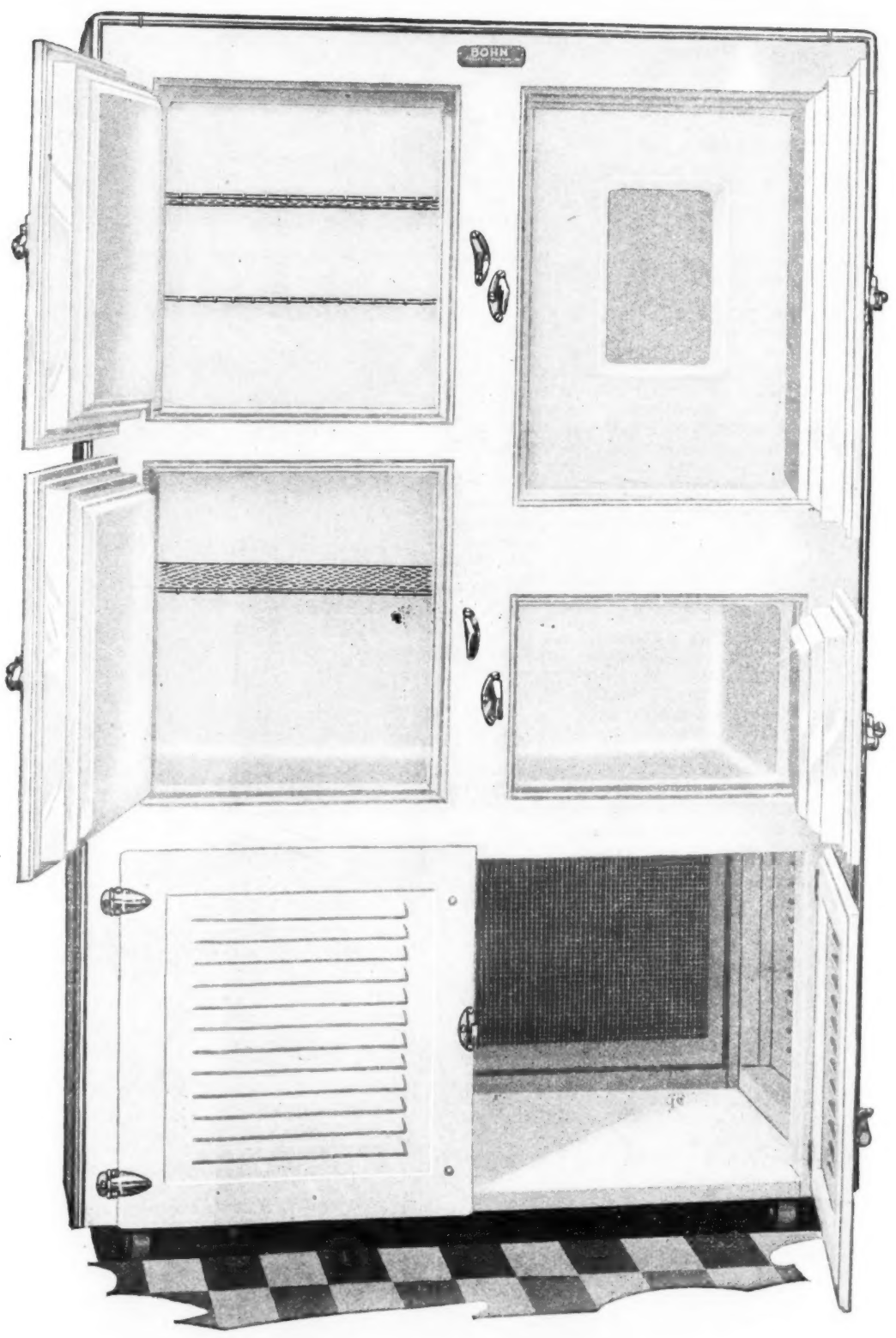

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